

#21640 : Level of Comfort of Emergency Physicians in Dealing with Obstetric Emergencies

Authors:

Mohan Tiru (1)

1. Department of Emergency Medicine, Woodlands Health Campus, Singapore, Singapore

Keywords: Comfort, Obstetric, Emergencies

Abstract :**Background:**

Prompt identification and competent management of obstetric emergencies are essential in emergency medicine (EM); however, exposure to pregnant patients during EM residency training is frequently limited. There is also a paucity of data describing effective ways to teach emergency department (ED) doctors this material.

Methods: A 13-item questionnaire to evaluate specialist emergency and staff emergency physicians' confidence related to obstetric emergencies was distributed to a convenience sample of specialist and staff doctors in all Singapore EDs. To assess their confidence, we asked them about their comfort level and exposure to common obstetric emergencies, eight common presentations and procedures.

Results:

The sample size calculated was 45. The survey was completed by a convenience sample of 45 senior ED doctors from all public EDs in Singapore. This represented representing 25.7% of the senior ED doctors in Singapore public hospitals.

The average experience of ED doctors surveyed was between 10-20 years. And the largest group of respondents were specialist emergency physician senior consultants.

The overall comfort level was 2.66 (5 point scale), and comfort levels of specific presentations and procedures ranged from 2 to 5 (1= very uncomfortable, 5 = very comfortable).

Comfort level of managing trauma and cardiac resuscitation in the pregnant patient was 3.09

Performance on individual questions on specific procedures and presentations did not differ by experience.

Conclusions:

The early identification and competent management of obstetric emergencies is crucial in EM. There is evidence of a concerning lack of EP comfort regarding obstetric conditions which may be due to knowledge deficits on core obstetrics. EPs may benefit from continuing professional development to increase comfort and competence to these topics.

Trial Registration / Funding Information (only) :

Dependent on acceptance of abstract

#21643 : Lifting of Epiglottis Superior to Preloaded Bougie Technique When Only the Epiglottis is Visible: A Randomised, Cross-over Mannequin Study**Authors:**

Tzu-Yao Hung (1), Yung-Cheng Su (2)

1. Emergency Department, Taipei City Hospital, Zhong-Xing Branch, Taipei, Taiwan, China
2. Department of Emergency, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi County, Taiwan, Chiayi County, Taiwan, China

Keywords: difficult airway, intubation technique, lifting of epiglottis, bougie, Cormack-Lehane grade

Abstract :

Background:

Bougies nowadays are general accepted to be the first line adjunct to facilitate tracheal intubation and are believed to improve the first-pass success rate [1]. On the other hand, a stylet made of an aluminium rod with polyvinyl chloride coating is widely available and can provide better sustainability in lifting of epiglottis compared to an elastic bougie, allowing in some cases for an unliftable epiglottis to be converted into grade IIIa view. Based on our previous study, lifting the epiglottis with the tip of a stylet-equipped ET tube may also facilitate intubation without extra cost [2]. In this study, we aimed to compare the bougie technique with epiglottis lifting to investigate which technique provide a better clinical solution in difficult airway management when only epiglottis can be seen.

Methods: The participants intubated three different kinds of manikin (Airsim Multi Airway Manikin, Laerdal Airway Management Trainer, and AMBU Mannequin Intubation Airway) with different diameters of mouth opening and glottis inlet with two intubation methods (lifting the epiglottis with a stylet-equipped ET tube and pre-loaded bougie technique), namely, 3x2 possibilities. All intubation processes were recorded by a video camera located on the tip of the laryngoscope and were reviewed to make sure the glottic views were under the simulated condition (C-L grade III).

Results: 20 participants, including 15 attending physicians, 2 residents, and 3 nurse practitioners were recruited for study. Of the 120 intubation processes, 119 were C-L grade III view. The overall intubation success rate of the intubation was 86.67%; that of the technique with epiglottis lifting technique was 98.33% and that of the pre-loaded bougie technique was 75% ($p < 0.0001$). The overall 'total time' of intubation were 34.10 ± 25.61 s; for the technique with epiglottis lifting were 22.25 ± 15.17 s and; for the pre-loaded bougie technique were 45.95 ± 28.41 s. The Kaplan-Meier plot illustrates that the lifting of the epiglottis technique had a significantly shorter time to successful intubation (Figure 1). In the Cox regression analysis of covariates, only lifting the epiglottis was a significant factor ($p < 0.0001$).

Discussion:

Ueda et al. showed that the epiglottis lifting technique with the protruding stylet may help improve the glottic view [3]. In that study, the participants passed the ET tube after the stylet alone lifted the epiglottis. Concerned about stylet-related pharynx trauma, we investigated the intubation success rate with a stylet-equipped ET tube lifting technique without protruding the stylet first and found it still very useful ($p < 0.0001$, 95% CI 1.34–2.11) [2]. Moreover, a stylet-equipped ET tube is more universally available and has no extra costs. Our study results found that the epiglottis lifting technique with stylet-equipped ET tube has a better intubation success rate and shorter intubation period compared with the pre-loaded bougie technique ($p < 0.0001$, HR 3.10, 95% CI 1.89–5.08).

Conclusions: When tested on a simulated manikin, epiglottic lift with stylet-equipped ET tube can facilitate the intubation in a C-L grade III difficult airway compared to the pre-loaded bougie technique.

Trial Registration / Funding Information (only) :

Taipei City Hospital Health Bureau

#21712 : Bilateral synchronous thalamic infarction

Authors:

Naiara Cubelos Fernández (1), Rebeca Cuadra San Miguel (2), Gregorio Enrique Fernández Fernández (3), Ana Núñez Villén (4), Alberto Kramer Ramos (5), Elena Santos Ferreras (1), Moira Carballo Cereijo (1), Ainhoa Cubelos Fernández (5)

1. General Practitioner , León, León, Spain
2. Emergency doctor, Ponferrada, León, Spain
3. Emergency doctor, León, León, Spain
4. General Practitioner , Valencia, Valencia, Spain
5. General Practitioner , Murcia, Murcia, Spain

Keywords: Percheron syndrome. Bilateral thalamic infarction. Stroke.

Abstract :

Medical Query: A 59-year-old male, previously asymptomatic, who begins at 9:40 am with an episode of motor dysarthria and blurred vision, without clear diplopia, with right deviation of the mouth. His family also refers gait instability and sleepiness. The patient does not remember anything of what happened until recovery in one hour completely. No fever or infectious clinic. Not clinical at other levels.

Anamnesis: man, 59 years old, who attends an episode of dysarthria.. Personal data: No known allergies to medication. Ex-smoker since 2001 (2 packages/day), bilateral carpal tunnel syndrome, right scaphoid fracture, inginal hernia surgery. Treatment with: Pravastatin / Fenofibrato 40/160 (1/24 hours), Valsartan / Amlodipine /Hydrochlorothiazife 10 /320 / 25 (1/24 hours).

Physical examination:

Tª 36.3°C. TA 153/104. FC 55bpm. Concious, oriented, collaborator, eupneic al rest, normocolored and normohydrated.

AC: rhythmical cardiac sound without murmurs.

AP: Vesicular murmur without heart murmurs.

Abdomen: soft, compressible, not painful during palpation, not masses or megalia, with no signs of peritonism.

EEII: No signs of VT or edema. Symmetrical distal pulses.

NRL: Normoreactive pupils. Not disorder of cranial nerves. No facial asymmetries. Strength and sensitivity preserved. Normal muscle tone, no claudication neither in Mingazzini nor in Barré. Osteotendinous reflexes ++ / +++ . Babinski flexor bilateral. Normal coordination and walking without findings of interest.

Additional tests:

- Blood test: completely normal.
- Cranial CT: no signs of ischemia, acute hemorrhage or intracranial expansiveness, empty sella. Permeable vertebral carotid, basilar and main branches of de Willis polygon. Calcified atomatosis in carotid bifurcations. Decrease in the caliber of the nasopharyngeal airway at the level of the soft palate.
- HOLTER: sinus rhythm with normal frequencies.
- Echocardiogram: left ventricle with normal size and thickness, with preserved contractility without segmental alteratios. Normal pulmonary flow. Right ventricle with normal side and preserved functions. Valves without alterations.
- Nuclear magnetic resonance: subcentimetric ischemic lesions, and subacute profile in both thalami. Small hyperintense lesions in the subcortical white matter of both frontal lobes in the probable context of chronic microangiopathy.

Suspected diagnosis at the Emergency Service: vertebrobasilar stroke with reversible behavior (bilateral thalamic infarction).

Diferencial diagnosis:

- Transient ischemic attack.
- Brain tumor injury.

Evolution: Because of the clinical stability of the patient, it was decided to transfer to his habitual residence, initiating antiaggregation as secondary prevention indefinitely (acetylsalicylic acid 100).

Two months later, the patient went back to the Emergency Service Hospital for mild dysarthria, where he underwent new tests, including a carotid Echo-Doppler, observing left carotid covered in 50% of diameter. The patient is also study by Cardiology service because of probably Foramen Oval as a possible origin of thrombus formation. In approach of possible surgical intervention for percutaneous closure.

Conclusions: The bilateral thalamic infarction (Percheron ´ s syndrome) is a very variable clinical presentation syndrome, and requires a Nuclear magnetic resonance of the brain for its typing, since the initial cranial CT is not very sensitive. This explains the difficulty of the diagnose and the probable underestimation of its frequency.

#21713 : A rare case of stroke

Authors:

Júlia Héger (1), Veronika Deák (2), Csaba Balázs Nagy (1), Csaba Varga (2)

1. MD, SMK MOK, Szombathely, Hungary

2. MD, SMK MOK, Kaposvár, Hungary

Keywords: stroke, hypertensive crisis, pheochromocytoma

Abstract :

Brief clinical history: We report a case of pheochromocytoma in a 46-year-old man with a history of hypertension and GERD. The patient presented with intractable hypertension, headache, paroxysmal vomiting, cardiac dysfunction and vision impairment.

Misleading elements: First head CT scan and coronarography showed no abnormalities.

Helpful details: As far as the neurological symptoms became more severe we repeated head CT scan, which showed subacute cerebral infarction. Computed tomography scan of the abdomen and evaluation of catecholamine levels confirmed pheochromocytoma. Surgical resection of a right adrenal mass quickly resolved the patient's hypertension.

Differential and actual diagnosis: Subarachnoidal haemorrhage vs ischaemic stroke due to pheochromocytoma

Educational relevance: Although pheochromocytoma has rarely been reported in the presence of severe, temporary cardiac dysfunction and ischaemic stroke, it should be included in the differential diagnosis when a patient is presenting with cardiac dysfunction and a cerebrovascular event that have no obvious cause.

#21716 : Thyroid and heart disease at the same time

Authors:

Naiara Cubelos Fernández (1), Rebeca Cuadra San Miguel (2), Gregorio Enrique Fernández Fernández (3), Rubén Sánchez Rodríguez (4), Ana Peñalver Andrada (1), Saúl Escudero Álvarez (3), Elena Santos Ferreras (1), Ainhoa Cubelos Fernández (5), Moira Carballo Cereijo (1)

1. General Practitioner , León, León, Spain
2. Emergency doctor, Ponferrada, León, Spain
3. Emergency doctor, León, León, Spain
4. General Practitioner , Asturias, Asturias, Spain
5. General Practitioner , Murcia, Murcia, Spain

Keywords: Cardiac insufficiency, Thyroid. Dilated cardiomyopathy.

Abstract :

Anamnesis: A 63-year-old male, smoker 6 packages year and drinker 1 glass of wine a day. Diagnosed of paroxysmal atrial fibrillation 12 years ago, without treatment. He goes to the Emergency Department for a 2-week course of progressive minimal effort dyspnea (previously CF I NYHA), associated with edema in the lower limbs. Deny angor. Feeling of occasional palpitations. Blood pressure figures 160/100 figures since months.

Physical examination: Blood pressure 170/100, CF 105 bites per minute. Exophthalmos increased jugular venous pressure. An enlarged thyroid gland is palpated. Cardiopulmonary auscultation: Arrhythmic Cor at 100 bpm, no murmurs. Right hypoventilation. Rest normal.

Additional tests:

- Chest x-ray: Increased cardiothoracic index, right pleural effusion.
- Transthoracic echocardiogram: Dilated cardiomyopathy with severe depression of left ventricular ejection fraction (35%).
- Blood test: T4 1.04. TSH 0.005. T3 0.72. Anti TGB 492. Antimicrosomal > 1000. HIV, hepatitis c virus negative, HBV negative. Vitamin B1 normal.
- Hemodynamic study: Normal coronary arteries.

Suspected diagnosis at the Emergency Service: exacerbated cardiac insufficiency and atrial fibrillation in a patient with dilated cardiomyopathy in relation to thyroid disease (Autoimmune hyperthyroidism)

Diferencial diagnosis: The etiology of dilated cardiomyopathy is varied, the most frequent is the ischemic cause and myocarditis (excluding idiopathic origin). The differential diagnosis includes toxic (alcohol), infectious (HIV), congenital, autoimmune and related causes of endocrine system disorders. Thyroid disease due to excess of its function (hyperthyroidism) has numerous clinical manifestations. The positive chronotropic and inotropic effect in patients with hyperthyroidism may cause a higher frequency of heart failure and atrial fibrillation, which may affect the ventricular structure.

Evolution: The patient enters at the internal medicine service to perform complementary tests and treatment. Good evolution.

Conclusions: The differential diagnosis of dilated cardiomyopathy is broad, with endocrine system abnormality being infrequent. In our case, the physical examination highlighted an important exophthalmos and a palpable goiter, and together with the rest of the semiological data, oriented towards a decompensation of cardiac insufficiency on a cardiomyopathy dilated by hyperthyroidism. A thorough physical examination can guide the diagnosis from the first moment.

#21723 : Benefit of Extracorporeal Cardiopulmonary Resuscitation in Elderly Patients over 75 Years Old; A Case Series of 28 Patients.**Authors:**

Shota Kikuta (1), Ryo Takahashi (1), Shinichi Ijuin (1), Akihiko Inoue (1), Shigenari Matsuyama (1), Tetsunori Kawase (1), Satoshi Ishihara (1), Shinichi Nakayama (1)

1. Emergency and Critical Care Medicine, Hyogo Emergency Medical Center, Kobe, Japan

Keywords: ECPR, elderly patient

Abstract :**Introduction:**

There are few discussions regarding the upper limit of age for extracorporeal cardiopulmonary resuscitation (ECPR). Our higher limit for ECPR is set at 75 years old. However, we sometimes initiated ECPR in patients exceeding the upper limit for several practical reasons. We investigated outcomes and indications of ECPR in such elderly patients.

Methods:

In this case series, cardiac arrest over 75 years old applied ECPR in our hospital between January 2011 and June 2019 were reviewed in the medical record. Patient's characteristics, outcomes and reasons for ECPR initiation were analyzed retrospectively. Patients whose cannula could not be inserted were excluded. The indications for ECPR at our institution are as follows: (1) Patients aged under 75 years with initial shockable rhythm or witnessed PEA and (2) Patients over 75 years or uncertain age with hopeful information such as presence of agonal breathing. Good recovery was defined as Cerebral Performance Category score of 1-2 at 6-months after the event.

Results:

Among 187 cardiac arrest patients with ECPR in this period, 28 (15%) were over 75 years old. Mean age was 79, and the oldest was 88. With regard to initial rhythm, the incidence of VF/VT, PEA, and asystole was 10, 16, and 2 patients, respectively. Cardiogenic etiology was verified in 15 patients. Seven patients had good recovery (25%). The reasons for ECPR initiation were presence of witness (25 patients), bystander CPR (22 patients), in-hospital cardiac arrest (11 patients), uncertain age on admission (4 patients), and accidental hypothermia (3 patients). Other reasons were presence of signs of life, such as body motion, agonal breathing and pupillary light reflex during resuscitation. Adverse events were hemorrhage from cannulation site (6 patients), retroperitoneal hemorrhage (5 patients), upper gastrointestinal bleeding (2 patients), cerebral infarction (2 patients), cerebral hemorrhage (1 patient), and epistaxis (1 patient).

Conclusion:

An aging society is becoming widespread over the world. ECPR for patients over 75 years old may be beneficial, if a physician thinks resuscitation is worth attempting. The findings need to be validated in future studies.

#21725 : Diagnostic pitfalls: hidden enemy causing inappropriate blood supply of heart muscle**Authors:**

Lilla Prenek (1), Lilla Prenek (1), Klára Csupor (1), Péter Besztercán (1), Krisztina Boros (1), Erika Kardos (1), György Bokori (1), Miklós Egyed (1), Ádám Kellner (1), Csaba Varga (1)

1. , none, Kaposvár, Hungary

Keywords: chest pain, effort dyspnea, high troponin-T and d-dimer levels, coronarography, chest CT, diffuse large B-cell lymphoma

Abstract :

Generally, most common cause of chest pain and high troponin-T level is coronary artery disease. However, in our clinical practice we have found an unusual underlying cause of the aforementioned condition.

A 48-year-old male patient presented to our emergency department with complaints of chest pain and effort dyspnea which became progressively worse on the day of admission. His past medical history included diffuse large B-cell lymphoma (DLBCL), currently in regression.

On physical examination the patient had normal blood pressure and blood oxygen saturation with tachycardia and body temperature of 38.9 degrees of Celsius. On auscultation of the lungs mild crepitation was heard over the left lower lobe. The patient's electrocardiogram revealed sinus tachycardia, incomplete right bundle branch block with Q waves and minor ST elevations in leads II, III and aVF.

From his laboratory findings at presentation elevated C-reactive protein, high-sensitivity troponin-T and d-dimer levels were notable. Chest X-ray showed consolidation or dystelectasis on the left side and significantly enlarged heart compared to the previous images, which raised the possibility of the presence of pericardial fluid. Bed side transthoracic echocardiography depicted inferior akinesis, reduced left ventricular function with 4-6 mm pericardial fluid and suggested coronarography following chest computed tomography (CT) to rule out pulmonary embolism. Quick assessment of the chest CT images demonstrated no significant embolism. Coronarography was immediately performed showing no intervention indicating occlusion.

Fine analysis of the patient's chest CT images revealed abnormal tissue in the walls of the right ventricle and atrium considered as progression of his lymphoma. The tissue was externally compressing the right coronary artery. The CT images excluded embolism.

The patient's complaints were caused by the progression of his lymphoma therefore he was admitted to Hematology Unit for further treatment. Patient received immediate therapy according to R-GemOx (gemcitabine-oxaliplatin plus rituximab) protocol and his symptoms ameliorated.

Our case illustrate that rarely healthy coronary arteries can cause inappropriate blood supply to the heart muscle if they are externally compressed by such a seldom thing as an intramyocardial malignant lymphoid tissue.

The patient is planned to receive polatuzumab-vedotin treatment followed by allogeneic bone marrow transplantatin to cure his disease.

#21726 : The curious case of the swollen face: a complicated case of Ludwig's angina.

Authors:

Jessie Lynch (1), Maura Grummell (1), Aidan Grufferty (1)

1. Emergency Department, Tallaght University Hospital, Dublin, Ireland

Keywords: ENT, otolaryngology, Ludwig's angina, abscess, airway compromise, odontogenic infection

Abstract :

A 40 year old female presented to ED complaining of progressive bilateral face & neck swelling for 3 days. GCS was 12/15 (E3V3M6). Her history was notable for 2 dental extractions in the prior week. On examination she was afebrile but tachycardic at 123bpm. She was pale. A bilateral large submandibular and submental swelling was present, which was tender and indurated on palpation with no crepitus. She had a patent airway with normal O2 saturations and no stridor. She spoke in a hoarse whisper. She did have some trismus but was able to partially open her mouth. She was treated with IV ceftriaxone, IV metronidazole & IV dexamethasone. Blood results showed WBC 16.9, neutrophils 14.9, CRP 267, Hb 7.0. Anaesthetics and ENT were involved early. Flexible nasolaryngoscopy performed by ENT showed no airway compromise. Urgent CT demonstrated an extensive odontogenic infective process centred on the body of the mandible, with a 5.0x3.0x2.0cm fluid collection without rim enhancement noted in the submental region. Anaemia and decreased GCS were later found to be related to a chronic anaemia from peptic ulcer disease secondary to Nurofen Plus (ibuprofen plus codeine) addiction and a cocktail of 10 antidepressant and antipsychotic medications that she was taking for severe bipolar disorder. She was monitored in the high dependency unit overnight and transferred to the regional maxillofacial surgery team the following morning for incision & drainage. An oropharyngeal swab taken during her stay grew alpha haemolytic streptococci. This was an interesting case involving the interaction of multiple specialties. Initially the decreased GCS and low haemoglobin were confounding features in this presentation. Ludwig's angina is an aggressive deep neck space infection which can progress rapidly to airway compromise, and early recognition by emergency physicians is essential in improving prognosis for these patients.

#21734 : Ketamine use allows non-invasive ventilation in distressed patients with acute decompensated heart failure**Authors:**

Ankur Verma (1), Kushagra Gupta (2), Sanjay Jaiswal (3), Abhishek Snehy (4), Meghna Haldar (1), Amit Vishen (4), Wasil Rasool Sheikh (5)

1. Consultant, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
2. Resident, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
3. Head of Department, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
4. Attending Consultant, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
5. Associate Consultant, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India

Keywords: Ketamine, Heart Failure, NIPPV, Dissociation

Abstract :

A 71 year old female presented to our ED in severe respiratory distress and AMS. She was a known diabetic, hypertensive, post permanent pacemaker implantation and was on diuretics and ACE inhibitors for dilated cardiomyopathy with a baseline ejection fraction (EF) of 25%. On arrival she was tachypnoeic with respiratory rate of 40 breaths/minute, heart rate of 120 beats/minute, blood pressure 200/110 mm Hg and oxygen saturation as indicated by pulse oximeter was 75% on room air. Systemic examination revealed reduced air entry in both lungs and coarse crepitations bilaterally. Oxygen supplementation was started at 8 L/minute via reservoir mask. Intravenous furosemide 60 mg and nitroglycerine infusion (20mcg/min) were given. She did not respond to oxygen supplementation and decision to start her on Bilevel positive pressure ventilation (BiPAP) was made. Attempts to start BiPAP failed as the patient was increasingly agitated. Intravenous bolus dose of 30 mg ketamine, which dissociated the patient was given and BiPAP was started. 2D echocardiography done in the ED revealed global hypokinesia with EF of 25%. Patient was diagnosed with acute decompensated heart failure (ADHF). One hour later, patient was conscious and oriented and showed good tolerance to BiPAP. Her respiratory rate settled to 16 breaths/minute with saturation of 95% on BiPAP, heart rate of 78 beats/minute and blood pressure of 130/70 mmHg. Four hours after arrival to the ED she was weaned off the BiPAP and nitroglycerine and maintained oxygen saturation of 100% on 2 L/min via nasal cannula. We believe that ketamine induced dissociative state in the patient with acute decompensated heart failure facilitated NIPPV management in an otherwise uncooperative patient and allowed NIPPV to take effect. This led to the avoidance of an impending intubation. As emergency physicians it should be our goal to avoid intubating patients and putting them on mechanical ventilation when other options may be attempted. Ketamine may be used in agitated ADHF patients to facilitate NIV. Ketamine has been used for asthma patients to allow NIV but has not been previously used in ADHF patients.

#21735 : A case of bottle gourd (*Lagenaria siceraria*) juice poisoning**Authors:**

Ankur Verma (1), Shivani Sarda (2), Sanjay Jaiswal (3)

1. Consultant, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
2. Resident, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India
3. Head of Department, Dept. of Emergency Medicine, Max Super Specialty Hospital, Patparganj, New Delhi, New Delhi, India

Keywords: Bottle gourd, Shock, toxicity

Abstract :

A 52 year old woman presented to the ED with complaints of severe upper abdominal pain, multiple episodes of vomiting and fresh blood in vomitus since the morning. She presented with weak pulse with a rate of 70/minute, systolic BP recorded was 70 mmHg, respiratory rate of 18/ minute, Saturation of 100% on room air, Temperature of 98°F, random sugar of 100 mg/dL. Her abdomen examination revealed a soft abdomen with epigastric tenderness. No organomegaly was appreciated. Rest of the systemic examination was unremarkable.

The episode had begun after she had consumed Bottle gourd juice. Patient was given intravenous Omeprazole, Ondansetron and Hyoscine. She was given 2 litres of isotonic normal saline and a Ryle's tube was inserted for Gastric lavage. After adequate fluid resuscitation the blood pressure was recorded as 140/100 mmHg. The patient underwent emergent endoscopy which revealed Grade – A Esophagitis with pangastritis with severe duodenitis. The patient was managed by the Gastroenterology team with intravenous fluids, antibiotics, antiemetics, antacids and discharged in a stable condition after 4 days. In Ayurveda, bottle gourd is advocated for treatment of diabetes mellitus, hypertension, flatulence, cooling properties, liver diseases, weight loss and other associated benefits. In recent times it has been unearthed that Bottle gourd juice which becomes bitter can cause severe toxic reactions and lead to symptoms such as pain abdomen, vomiting, diarrhea, hematemesis, hematochezia, shock and death. It is important not only for the general population but for Emergency medicine physicians too, to be aware of this uncommon presentation and recognize it without delay especially in our country where traditional medicine is widely prevalent

#21740 : Emergency medical videodispatch : a dynamic device to improve emergency medical services**Authors:**

Gwenolé Pineau (1, 2), Arnaud Martinage (1), Morgane Péré (3), Sylvain Trihan (1), Joel Jenvrin (1), Yann Penverne (1), Emmanuel Montassier (1)

1. SAMU 44, CHU Nantes, nantes, France
2. urgences, Cité sanitaire de Saint Nazaire, saint nazaire, France
3. Plateforme de Méthodologie et Biostatistique, CHU Nantes, nantes, France

Keywords: dispatch, emergency medical service, video, triage

Abstract :

Background:

Emergency medical dispatchers (EMD) communicate with the caller almost exclusively through voice channel. It is now possible to see “on the spot” in real-time using video conferencing equipment: this is emergency medical videodispatch. In our emergency medical center, we use a secure videoconferencing solution named XpertEye® since 2017. Flows come from pre-equipped health professionals or from witnesses with a smartphone invited by SMS text message. Then, the EMD access to a secured platform to visualize the video call. Our objective was to assess this new tool.

Method:

A descriptive, monocentric and prospective design was used. During the 8 months study period (from 8 November 2018 to 8 July 2019) EMD and professional pre-equipped callers completed case report forms. The patients included in this study were patients for whom a call to the EMS was made and for whom the EMD wished a video. Briefly, after using the videoconferencing equipment, the EMD was asked the usefulness of the solution using visual analog scale from 0 (meaning “not useful”) to 10 (meaning “very useful”). The set of variables was described by number and percentage. The study was approved by our local ethics committee.

Results:

112 videoconferences were performed, mainly for trauma patients (n= 52, 46%). In more than 90% of cases, our video conferencing equipment helped the EMD. The usefulness was rated 7/10 on average by the EMD, higher in trauma patients (7.7/10) or when the call came from a non-equipped witness (7.7/10). However, the usefulness appeared less important for calls issued by physicians (2.8/10). Overall, the video conferencing equipment changed the diagnosis hypothesis of the EMD in 13% of cases, and EMS dispatcher's decision changed in 43% of the cases based on video conferencing data.

Conclusion:

Emergency medical videodispatch is a new decision-making tool for the EMD, allowing a real-time vision of situations. Our pilot study showed that this equipment was useful for the EMD, especially in trauma patients. We also found that EMC dispatcher's decision were impacted by video conferencing. Thus, video conferencing equipment may be useful in EMD. Larger prospective studies are needed to validate the interest of this solution.

#21757 : shortened NIHSS assessment for stroke patients in emergency

Authors:

samad shams vahdati (1), nasrin taghizadieh (1), alireza ala (1), elyar sadeghi-hokmabadi (1), zahra vandrajabpour (1), ipak ntezari (1)

1. , none, tabriz, Islamic Republic of Iran

Keywords: the national institutes of health scale,stroke,outcome

Abstract :**Abstract**

Introduction: NIHSS is a tool for doctors to measure stroke disability. This term stands for the National Institutes of Health Scale (USA) or the National Institutes of Health Scale Score. And aims to create a standard and repeatable assessment system for patients who have had strokes. The evaluation of the NIHSS value is shortened to 8 parts in assessing the severity of stroke in an emergency

Materials and Methods: This is a cross-sectional and prospective study in which patients with stroke complaints referred to the emergency department of Imam Reza Hospital (AS) are included.

In this study, for a stroke patient referring to an emergency medical resident (only one resident who is fully acquainted with it), for NIHSS-8 patient, and then during a preliminary examination in a neurologic visit for the patient, only one resident NIHSS-11 is calculated. Then the outcome of the patient is assessed at the time of discharge based on mRS. Finally, the relationship between NIHSS-8 and NIHSS-11 is calculated based on the mRS and severity levels are defined as mild, moderate, severe for NIHSS-8.

Results: The relationship between NIHSS-11 in an emergency with NIHSS-8 in an emergency is 0.970. They have a very close relationship with each other, and NIHSS-11 also has direct and close links during clearance (0.886). Also, NIHSS-11 in Emergency and NIHSS-8 in Emergency and NIHSS-11 are nearby when discharged with mRS at the time of discharge. But NIHSS-11 in the emergency room and NIHSS-8 in the emergency department is not associated with the outcome of the patient.

Conclusion: The results of our study indicate that NIHSS eight can be a good alternative to NIHSS eleven, which is both easy and time-consuming, and, also, with its classification, like the NIHSS eleven, for Decide on fibrinolytic treatment.

Keywords: the National Institutes of Health Scale, stroke, outcome

Trial Registration / Funding Information (only) :

this study was approved by regional ethic committee of Tabriz University of medical sciences with no.: IR.TBZMED.REC.1396.1112 conflict of interest: there is no conflict of interest

#21791 : Psoas abscess: an uncommon infectious entity

Authors:

Rebeca Cuadra San Miguel (1), Naiara Cubelos Fernández (2), Beatriz Peleteiro Cobo (1), José Ramón Casal Codesido (1), Roberto Rodríguez Alonso (1), Gregorio Enrique Fernández Fernández (2)

1. Emergency, Hospital El Bierzo, Ponferrada, Spain
2. Emergency, Complejo Asistencial Universitario de León, León, Spain

Keywords: psoas abscess, fistula

Abstract :**Anamnesis:**

A 41-year-old woman, consulted for a 4-month history of left dorsal swelling that does not improve with taking anti-inflammatory drugs. In the last 48 hours, the patient presented localized hyperemia and active suppuration, no associated fever.

Personal data: No known allergies to medication. No active drug treatments at the present time.

Physical examination: blood pressure 104/63 mmHg. CF 78 beats per minute, T° 36,7°C.

Conscious, oriented, collaborator, eupneic at rest, normocolored and normohydrated.

Bultoma is palpated at the level of the left dorso-lumbar paravertebral musculature with localized hyperemia and desquamative central point. Not active suppuration at acupressure at the present time.

Additional tests:

- Blood test: Hemoglobin 11.8 g / dL, rest of hemogram, coagulation and biochemical normal.
- TAC: Hypoechoic collection with echoes in its interior and fluctuation of 55 x 16 x 22 mm, anfractuous margins, located in the deep subcutaneous cellular tissue that seems to communicate with the left colon, which presents marked parietal thickening in a segment of an approximate length of 7.5-8 cm. These findings suggest a nonspecific parietal thickening of the left colon (inflammatory versus neoplastic) with fistulization to the deep cellular tissue of the left dorsal region. This collection is extended to the left psoas muscle with a diameter of 25 x 18 mm.

Suspected diagnosis at the Emergency Service: Abscess at the left psoas level secondary to spontaneous whole cutaneous fistula.

Diferencial diagnosis:

- Rheumatic fever.
- Discitis.
- Lymphoma.
- Pelvic inflammatory disease.

Evolution: The patient is entered in charge of the General Surgery Service to complete the study. During the admission, empirical antibiotic therapy with piperacillin-tazobactam is started and the following tests:

- Colonoscopy: it is observed segmental colitis of the left colon.
- Exploration with local anesthesia: no content extraction.
- Placement of an ultrasound-directed percutaneous catheter: with progressive decrease in the diameter of the abscess in the successive ultrasound controls.

Conclusions: Psoas abscess is a rare infectious disease that is difficult to diagnose due to its nonspecific clinical presentation and its prolonged course. The most frequent sign is abdominal or lumbar pain (76-91% of patients) as in the case we present. The differential diagnosis should be made with acute appendicitis, septic hip arthritis, sacroiliac arthritis, iliac osteomyelitis, rheumatic fever, discitis, soft tissue abscesses, lymphoma and pelvic inflammatory disease, among others.

#21798 : Childhood´s polyarthralgias: not everything is because of the growth

Authors:

Rebeca Cuadra San Miguel (1), Naiara Cubelos Fernández (2), Beatriz Peleteiro Cobo (1), José Ramón Casal Codesido (1), Francisco Javier García García (1), Marta González Merayo (1)

1. Emergency, Hospital El Bierzo, Ponferrada, Spain
2. Emergency, Complejo Asistencial Universitario de León, León, Spain

Keywords: Staphylococcus aureus meticilin resistant. Polyarthralgias. Childhood.

Abstract :

Anamnesis: A 14-year-old male, previously asymptomatic, consulted for a 10-day clinic of polyarthralgias and inflammation in the left knee and both elbows. 48 hours before the current consultation, he has an arthrocentesis that is treated with anti-inflammatory drugs, despite it returns to consult for clinical worsening with increased pain that makes walking difficult. Deny fever.

Personal data: Chikungunya fever 4 years before after mosquito bites in Colombia.

Physical examination: Blood pressure 118/68, CF: 80 beats per minute. T^a 36,8°C, oxygen saturation 95%.

Conscious, oriented, collaborator, eupneic at rest, normocolored, sweaty. Glasgow 15.

Cardiopulmonary auscultation: anodyne.

Abdomen: soft, compressible, not painful during palpation.

EEll: Edema in the lower left limb with redness and rise temperature in the knee. Do not spill in the joints.

Additional tests:

- Blood pressure:
 - Biochemistry: urea 68, sodium 129, AST 87, Total bilirubin 3, CK 430
 - Hemogram: hemoglobin 12.4, VCM 80.2, HCM 27.5, 19300 leukocytes (9% staffed), 122.000 platelets.
 - Coagulation: normal.
- Chest x-ray: increased density in the right base and bilateral opacities scattered throughout both lung fields.

Suspected diagnosis at the Emergency Service: Septic arthritis and pyomyositis by Staphylococcus aureus meticilin resistant. Bilateral septic pulmonary embolism. Renal impairment resolved at discharge in the context of septic shock.

Diferencial diagnosis:

- Childhood rheumatoid arthritis
- Polyarthritis
- Transient synovitis

Evolution: He is in charge of the Internal Medicine Service for empirical antibiotic treatment with ceftaroline (after objectifying in synovial fluid the presence of resistant staphylococcus aureus meiticlin) and analgesia, despite which fever develops and progressive renal function is altered so it is necessary transfer to Intensive Care Unit where study is completed with:

- Chest CT: Multiple cavitated nodular lesions distributed diffusely by both hemithorax, suggestive of septic emboli. Small alveolar patches with aerial bronchogram of bilateral peripheral location are also visualized. Increase in size of the muscles of the right shoulder girdle with presence of slightly hypodense formations in infraspinatus and subscapular muscles that suggest the presence of muscle abscesses at this location.
- Echo-doppler left lower limb: There are no other collections or signs of TVP.
- MRI of the lower left limb: Multiple encapsulated (mature) abscesses in the muscular planes of the left thigh from the surgical neck of the femur to the popliteal hollow. There is also myositis in the approaching muscles and quadriceps and arthritis of the left knee with abundant pus in

the synovial cavity.

Because of the findings described, linezolid is added to the treatment and surgical debridement and cleaning is performed by the trauma department. Progressively clinical improvement with neuropathic pain as a significant sequel.

Conclusions:

Septic arthritis in childhood is a rare entity (4/100000 children / year), being more frequent in men under 5 years. The most frequently involved joint is the knee, while the most involved etiologic agent in all ages is *Staphylococcus aureus*. The initial clinic is not very specific, so it is necessary to maintain a high level of clinical suspicion since the early onset of antibiotic therapy is essential to improve the patient's prognosis.

#21806 : Hypophosphatemia and insulin resistance:20 patients

Authors:

amine Raja (1), EL OUARDI MOUNIR (1), CHARRA BOUBAKAR (2)

1. Faculty of medicine and pharmacy;University Hassan II, Medical Intensive care, casablanca, Morocco
2. 1Faculty of medicine and pharmacy;University Hassan II, Medical Intensive care, casablanca, Morocco

Keywords: Hypophosphatemia,insulin resistance

Abstract :**Introduction**

Although hypophosphatemia is common in diabetics, little is known about its isolated effects on glucose and insulin metabolism. We therefore studied the metabolism of glucose in 24 diabetic patients hospitalized in intensive care for diabetic ketoacidosis. Changes in serum phosphate during the treatment of insulin-induced diabetic ketoacidosis are not well characterized, although it is known that serum phosphate drops with insulin therapy. We sought to define the nature of these changes and to determine whether the severity of acidosis on admission influenced the severity of subsequent hypophosphatemia and whether it induced insulin resistance.

Materials and methods:

We retrospectively reviewed data for all confirmed diabetic ketoacidosis patients presenting at our CHU IBN ROCHD Medical Resuscitation Unit in January 2019 and August 2019 inclusive. 20 patients with 24 episodes of diabetic ketoacidosis were evaluated.

The patients were divided into two groups. Both groups received routine treatment: vascular filling, insulin therapy, etiological treatment. Patients in one of the 2 groups (group P) also received supplementation with phosphorus.

Results:During hospitalization 45, 8% of patients had initial hyperphosphatemia. Initial serum phosphate in all episodes in patients was significantly correlated with initial serum creatinine ($r = 0.694$, $P < 0.01$) and baseline blood glucose ($r = 0.593$, $P < 0.01$). Serum phosphate dropped during treatment in all episodes (mean absolute fall of 1.28 ± 0.77 mmol / L). The average phosphate level was 0.58 ± 0.19 mmol / L.79.1% of patients had hypophosphatemia (< 0.8 mmol / L) and 11% severe hypophosphatemia (< 0.32 mmol / L), as well as daily insulin requirements as hypophosphatemia increased.Daily consumption of insulin is very important in group A without phosphate supplementation compared to group (P) ($p < 0.01$). The use of vasopressors and the duration of hospitalization in intensive care for patients in group P was less than that of group A patients ($p < 0.01$).

Comments:Phosphorus supplementation during diabetic ketoacidosis significantly reduced insulin consumption, hospital stay, and mortality, and significantly improved the acid-base balance.Phosphate levels should be monitored frequently during diabetic ketoacidosis treatment. And an intervention must be undertaken if the phosphate levels fall below 0.5 mmol / L.

#21810 : Impact of door-to-deployment time of venoarterial extracorporeal membrane oxygenation for out-of-hospital refractory cardiac arrest patients secondary to cardiovascular causes: A single-center, retrospective, observational study**Authors:**

Hiromi Muranishi (1), Ryosuke Zushi (1), Yoshiki Yagi (1), Shunya Kawasaki (1), Suguru Tanaka (1), Makiko Fukuda (2), Hitoshi Kobata (3)

1. Department of Cardiology, Mishima Emergency Critical Care Center, Osaka, Japan
2. Department of Anesthesiology, Mishima Emergency Critical Care Center, Osaka, Japan
3. Department of Neurosurgery, Mishima Emergency Critical Care Center, Osaka, Japan

Keywords: out-of-hospital cardiac arrest, extracorporeal cardiopulmonary resuscitation, door-to-deployment time

Abstract :

Background: Door-to-balloon time in patients with ST-elevation myocardial infarction is reported to be an independent predictor of the prognostic implication and was suggested to be included in current guidelines. However, the effect of door-to-deployment time (DTDT) of venoarterial extracorporeal membrane oxygenation (VA-ECMO) on patients with out-of-hospital cardiac arrest (OHCA) is unclear.

Purpose: This single-center, retrospective, observational study aimed to evaluate the effect of DTDT of VA-ECMO for mortality or neurological outcome of extracorporeal cardiopulmonary resuscitation (ECPR) in patients with cardiogenic OHCA.

Method & Result: This single-center, retrospective, observational study was conducted from January 2008 to April 2019. The primary endpoint was 1-month overall survival measured after ECMO initiation. Moreover, the secondary endpoint was 1-month survival with favorable neurological functions defined as having a cerebral performance category score of 1 or 2. A total of 3082 patients with OHCA were brought to our institution and 84 received ECPR. Of these, 51 consecutive adult patients with cardiogenic OHCA without sustained return of spontaneous circulation during transport were included in this analysis. Approximately 18 patients (18/51, 35.3%) survived after 1 month and were discharged. Among the survivors, 15 (15/18, 83.3%) were discharged with a favorable neurological outcome. The baseline characteristics between the survivors and non-survivors were not significantly different, except for the initial shockable rhythm [18/18 (100%) versus 28/33 (84.9%), $P = 0.03$]. There were no statistically significant differences between the median time from collapse to hospital arrival [31.0 min (IQR 25.0–31.0) versus 29.0 min (IQR 25.0–39.5), $P = 0.53$] and from call to hospital arrival [28.0 min (IQR 22.0–32.5) versus 27.0 min (IQR 23.3–34.5), $P = 0.56$]. The median DTDT of VA-ECMO was significantly shorter in survivors [13.0 min (IQR 11.5–18.3) versus 21.0 minutes (IQR 15.5–32.0), $P = 0.01$]. The Kaplan–Meier survival analysis showed that 1-month overall survival rate and survival rate with a favorable neurological outcome were significantly higher in the group with a DTDT ≤ 20 min (31 patients) than that with a DTDT > 20 minutes (20 patients), [11 patients (50.0%) versus 4 patients (19.0%), $P < 0.01$ and 11 patients (46.0%) versus 4 patients (14.0%), $P = 0.01$, respectively]. Using the Cox proportional hazards analysis, DTDT ≤ 20 minutes and bystander-witnessed significantly affected the overall survival rate at 1 month [adjusted hazard ratio (HR), 0.44; 95% confidence interval (CI), 0.20–0.95; and $P = 0.03$ and adjusted HR, 0.31; 95% CI, 0.13–0.74; and $P < 0.01$, respectively]. Regarding survival rate with a favorable neurological outcome, the result was relatively similar [adjusted HR, 0.46; 95% CI, 0.22–0.96; and $P = 0.04$ and adjusted HR, 0.37; 95% CI, 0.16–0.85; and $P = 0.02$, respectively].

Discussion & Conclusions: Bystander-witnessed, bystander CPR and initial shockable rhythm are considered as favorable predictors of adult ECPR. However, there is still limited information about DTDT of VA ECMO in the previous studies. This study revealed that the DTDT of VA-ECMO is significantly associated with the 1-month mortality and neurological prognosis of patients with cardiogenic OHCA. However, further studies will be required to confirm these findings.

Trial Registration / Funding Information (only) :

No appropriate register / This study did not receive any specific funding. This study was conducted according to the principles of the Declaration of Helsinki and approved by research ethics committee in our institution.

#21867 : SimArena Magdeburg – a survey on the low-cost 180-degree simulated learning environment

Authors:

Niklas Leschowski (1), Hanno Brinkema (1), Dorothea Hempel (2)

1. MAMBA Skillslab, Faculty of Medicine, Otto-von-Guericke University Magdeburg, Magdeburg, Germany
2. Emergency Department and Observation Unit, University Hospital Magdeburg, Magdeburg, Germany

Keywords: simulation, simulation arena, simulated environment, learning environment, medical education, emergency medicine

Abstract :**Background**

Simulation using multi-degree video projections to enhance realism of the scenarios in medical education was first presented in Germany at the University Hospital Münster and Essen. These installations were associated with very high costs of about 100,000 euros. We designed a low-cost simulation environment, called *SimArena*, at the training center *MAMBA Skillslab* at the University of Magdeburg with an overall cost of about 5,000 euros.

Methods

The multi-degree *SimArena* was implemented into courses for polytrauma care during medical education. A total of 38 students participated in the courses comprising of two scenarios in the *SimArena* and two scenarios in real environment. All participants were fourth year or higher medical students at the time of participation. The two simulated environments were a scene in a forest and a scene on a busy road. Real environments were a stairwell and a street in front of the training center. At the end of the courses a 14-item questionnaire was filled out by each participant. All questions were conceived as ordinal-scaled Likert scales.

Results

All students (n=38) completed the questionnaire. 89.5% agreed that the *SimArena* contributed to the perception of a realistic environment. The reasons for this perception were: the video projection (77.8%), the ambient noise (72.2%) and the exposed props (86.8%). The students reported that the video projection was noticed consciously and unconsciously; 77.7% stating that perception occurred mainly through peripheral vision. While 43.4% would prefer to train in real environments during simulations, 36.9% preferred the *SimArena*. Overall a total of 84.2% of the participants reported an increased level of stress during scenarios in the *SimArena*.

Discussion & Conclusions

We designed a multi-degree simulation environment investing about 5,000 euros. This represents only one-twentieth of the costs needed for prior and equivalent simulation installations. The quality of some materials (projectors, video recordings) and the display of video and sound might be inferior to the quality of the more costly simulation environments. This disadvantage is acceptable as the panorama video projections are only seen with peripheral vision. As participants reported an increased level of stress while performing in the *SimArena*, we started a randomized controlled trial (*SIMARENA*) in January 2020 to evaluate the impact of the multi-degree simulation environment on participants stress levels and their performance.

The *SimArena Magdeburg* is the first low-cost high-fidelity multi-degree simulation environment in Germany. This offers the opportunity for other medical schools around the world to adopt such a simulation environment and possibly extend the scenarios to different sub-specialties (anesthesiology, surgery, medicine, psychiatry) and professions (nurses, EMS personnel).

Trial Registration / Funding Information (only) :

This survey did not receive any specific funding.

#21886 : Triage of severity of patient's illness in emergency department**Authors:**

Sung-Hyuk Choi (1), Kim Kyung-Hwan (2), Cho Young-Duck (1), Sung-Joon Park (3)

1. Department of emergency medicine, College of Medicine, Korea University Guro Hospital, Seoul, Korea, Seoul, Korea, Republic of
2. Department of emergency medicine, Injae university Ilsan Baek hospital, Il-San, Korea, Republic of
3. department of emergency medicine, College of Medicine, Korea University Guro Hospital, Seoul, Korea, Seoul, Korea, Republic of

Keywords: Triage; severity; patient

Abstract :

Objective

It is important to recognize of patients in the emergency department who need prompt treatment by visiting many patients simultaneously. Many countries use a variety of patient classification methods to identify severity, but they still have many problems. Therefore, we would like to find out the usefulness of a patient's severity assessment in a new way that gives appropriate values to the factors that can be obtained in the emergency department.

Methods

We collected a variety of factors that could be obtained from patients in the emergency department. In addition, by using approximately 600,000 data from the National health insurance service, the proper value was obtained for frequency using the Rash analysis method. Using the proper values of various factors, the cutoff value for determining the patient's admission and discharge was determined Accordingly, we evaluated the accuracy of the program as to whether the decision to be admitted and discharged from program is consistent with actual hospitalization and discharge in patients who are visiting the emergency department from 1 January to 31 December 2019

Results

In order to evaluate the severity at the early stages of patients' visits, the accuracy of the program was analyzed by a combination of factors that could be obtained in early stages of patient's visits among various factors. 25,782 patients registered for experiment, and when the cutoff value was set at 148, the sensitivity of hospitalization was 80% and positive predictive value of discharge from a hospital was 78%.

Conclusion

The initial severity evaluation of patients in the emergency department is very important for the medical staff, and this study was shown to be significant. With the use of more factors, accuracy will be improved. In addition, a combination of appropriate factors in certain diseases, such as severe trauma, will contribute a lot clinically.

Trial Registration / Funding Information (only) :

This study was prepared on chart of patients (#25,782). This research was supported research program through the National IT Industry Promotion Agency (NIPA) funding by the Ministry of Science and ICT and the Ministry of Health and Welfare (J170073), Basic Science research program through the National Research Foundation (NRF) funding by the Ministry of Education, Science and Technology (R1804433), and was partially supported a Korea University Grant This study protocol and informed consent documents were reviewed and approved of Korea University Guro Hospital (IRB No. 2017GR0346)

#21887 : Significance of macrophage migration inhibitory factor and toll-like receptor 4 as predictive factors of sepsis in shock patients**Authors:**

Sung-Hyuk Choi (1), Kim Kyung-Hwan (2), Cho Young-Duck (1), Sung-Joon Park (3)

1. Department of emergency medicine, College of Medicine, Korea University Guro Hospital, Seoul, Korea, Seoul, Korea, Republic of
2. Department of emergency medicine, Injae university Ilsan Baek hospital, Il-San, Korea, Republic of
3. department of emergency medicine, College of Medicine, Korea University Guro Hospital, Seoul, Korea, Seoul, Korea, Republic of

Keywords: MIF; TLR; sepsis; shock

Abstract :**Objective**

Many patients die from sepsis and multiple organ failure, even though proper management in shock patients. Early prediction of sepsis in shock patients is important and used in various ways, such as c-reactive protein (CRP), white blood cell (WBC) and procalcitonin (PCT), but they have some problems. Recently, toll-like receptor (TLR), macrophage migration inhibitory factor (MIF) have emerged as predictive factors. Our study aims to explore the significance of TLR, MIF as predictors of sepsis in shock patients.

Methods

This study were conducted on prospective observational study patients who visited an emergency medical center in a university hospital from March 1, 2019 to December 31, 2019 and were intended for shock patients aged 18 or older. We measured WBC, CRP, PCT, MIF, TLR₄, TNF- α , Interleukin-6 (IL-6), and lactic acid with serum taken from the patient's blood. The definition of sepsis was defined as being part of SIRS criteria with infections within a week.

Results

153 hemorrhagic shock patients were registered in emergency department, 44 of whom had sepsis within a week. The PCT, WBC, TNF- α , IL-6 did not differ in the comparison between sepsis and non-sepsis patients, while the CRP was somewhat high in sepsis patients (133.95 ± 16.24 mg/L $> 60.46 \pm 3.57$ mg/L). However, MIF was significantly elevated in sepsis (2633 ± 710 pg/mL) to non-sepsis group (1460 ± 680 pg/mL). and also TLR₄ was elevated in sepsis (16.27 ± 2.05) to non-sepsis group (7.78 ± 0.59). There was no correlation between MIF, TLR₄ and lactic acid, which is the diagnostic criteria of shock.

Conclusions

It is believed that MIF and TLR₄ may be used as predictors of sepsis in shock patients. However, more research on the occurrence of MIF and TLR₄ are thought to be necessary.

Trial Registration / Funding Information (only) :

This study used in shock patients (#153) This research was supported Basic Science research program through the National Research Foundation (NRF) funding by the Ministry of Education, Science and Technology (R1804433), and was partially supported a Korea University Grant This study protocol and informed consent documents were reviewed and approved of Korea University Guro Hospital (IRB No. 2018GR0155)

#21913 : The triage process in the emergency department. A questionnaire on nurses' and physicians' perceptions of education, confidence and compliance.

Authors:

Lisette Fredriksson (1), Annika Hemström (2)

1. Specialist Nurse Emergency Care, Sophiahemmet University, Stockholm, Sweden
2. Specialist Nurse Emergency Care, Sophiahemmet University, Uppsala, Sweden

Keywords: triage, triage process, education, confidence, compliance

Abstract :

Inflow of patients to Sweden's emergency departments are increasing every year. In order to receive and assess patients in a patient-safe manner, triage is used. A well-functioning triage process is a prerequisite for patient-safe work at the emergency department.

The aim of this review was to study the triage process in the emergency department based on nurses' and physicians' perceptions of education, confidence and compliance.

The method was a descriptive cross-sectional study, based on a web-based survey sent to nurses and physicians active in the triage process in two hospitals in Sweden. Respondents included amounted to n=191. Data have been analyzed using quantitative and qualitative methods. Survey questions with closed answer options have been analyzed quantitatively with Chi-squared test and is presented using descriptive statistics. Free text replies have been analyzed qualitatively with manifest content analysis.

The results show that there are shortcomings concerning the triage education at the emergency departments participating in this study. Especially physicians state that they lack education regarding the triage tool and in the triage process procedures. Respondents' answers show that there are deficiencies regarding how well education content is consistent with how it is applied in the clinical activity and that respondents do not feel well prepared before starting triage in clinical activities. Patients' disease states are not regarded to be adequately identified by the triage tool or during the triage process. Based on aspects of over triage and identification of care and medical needs nurses show higher confidence in SATS than DPT. However, respondents at both emergency departments state that care and medical needs are not fully identified by the triage tool or during the triage process. Few respondents state that information transfer in the triage process works well in their workplace. The respondents may deviate from the triage tool, the triage process procedures and priority order. Perceptions of respondents are that physicians more frequently deviate than nurses. Nurses who work with nursing led triage consider in higher degree, than other respondents, that lack of compliance to triage process procedures affects patient safety at their place of work.

The conclusion is that there are shortcomings regarding the triage process in the emergency departments included in this study that could adversely affect patient safety.

#21999 : Legal Possibilities to employ Paramedics in Hospital Emergency Rooms**Authors:**

Janos Talaber (1)

1. , Karoli Gaspar University Budapest , Dabas, Hungary

Keywords: paramedics, emergency departments, hospitals, emergency care, legal possibilities, employ

Abstract :

1. Introduction

The purpose of this short study is to highlight the legal possibilities of employing paramedics off-board, which means, we would like to focus on the possible options to involve them into medical care at emergency hospital units. It is obvious that we lack medical doctors, nurses and other high trained staff not only in hospital wards, but also in pre-hospital emergency care. To overlap this lack and hiatus, it was several years noted in Hungary that as for competency reasons, the closest medical staff to be involved in emergency medical treatments is the paramedics. We have been dealing with medical law for more than a decade, and have been on board as paramedics (EMTs) for more than two decades now. The accurate scopes of Paramedics, competency and other conditions vary differently in the World, therefore there is not a consequent and primarily accepted competency. However, serving the streets and responding to dispatches is pretty much similar in all over the World, therefore, the main streams are almost totally related.

1. Material and methods

Throughout this lecture we will see the scopes and competencies as well as the education strategies of paramedic trainings in the USA and within the European Union (Hungary and the EU). In the USA, the title paramedic generally refers to those who work on land ambulances or air ambulances providing paramedic services. More and more paramedics in the USA and Canada are increasingly being utilized in emergency rooms by providing patient care in collaboration with physicians, physician assistants, nurse practitioners, registered nurses, registered practical nurses and registered respiratory therapists. In the UK, in practice, the majority of legislation that impacts on the day-to-day work of the paramedic is dealt with by the paramedic's employing authority. Health and safety, data protection, drugs regulation, medical equipment safety, and human rights are all areas that are legislated and put in place by employers. Paramedics as individuals are more likely to fall foul of the civil side of the law if they either lack competence or engage in behavior which could be considered as misconduct. In Hungary, as to ensure more efficient operation, the National Ambulance Service established the county rescue organizations in county seats around the mid-sixties managed by the local chief medical officers, whereas the director and professional administrative departments decided technical and organizational matters. In accordance with the 2011 CCIV National Higher Education Act of the Hungarian Government ordered the following act: general characteristics and competences describing the level of education obtainable in higher education, paramedics are now legally permitted to work at emergency wards.

Conclusion

As a consequence, both pre-hospitally and intra-hospitally, Paramedics are entitled and required to act according to the above described criteria – either in the USA, in the UK as well as in Hungary. Hence, Paramedics could be employed as paramedics with the criteria mentioned and detailed in our study.

#22030 : Factors associated with pulmonary complications after chest contusion with rib fracture among elderly**Authors:**

Chihchun Huang (1)

1. Emergency department, MacKay Memorial Hospital , Taipei, Taiwan, China

Keywords: Elderly;Chest contusion;Rib fractures

Abstract :

Background

Chest blunt trauma is an important contributor to morbidity and mortality, which affect 15% of total blunt trauma patients. This is particularly injurious among the elderly, who display a predilection for the development of pneumonia and other pulmonary complications.

On 2016, Western Trauma Association recommend all chest trauma patient aged older than 65 years old with more than 2 ribs fractures need to be admitted to intensive care unit for strictly monitor. But this recommendation is only based on their experience and institutional protocol lack of proper documented

evidence support.

The aim of this study is to identify the factors and mechanism associated with pulmonary complication after chest contusion with rib fracture among elderly. The results would help emergency physician to identify high risk patient at emergency department.

Material and method

This was a retrospective study conducted from January 2016 to October 2018 at a level I trauma center in Taiwan. MacKay Memorial hospital is a medical center. All patients aged ≥ 65 years with blunt chest trauma with rib fracture between 1 January 2016 and 31 October 2018 were identified. We excluded patients with any of the following : (1) admission for medical disease, (2) any body region except chest with AIS score >3 (3) no rib fracture reviewed by radiologist (3) out hospital cardiac arrest.

Results

We identified rib fracture(s) in 315 cases among 2,765 elderly presented to emergency department with thoracic trauma. There were 159 males (50.5%) and 156 females (49.5%) ranging in age between 65 and 98 years (mean . years). Two-third of patients injured outdoor(215/315, 68.3%). The leading cause of the trauma was falls (N=174, 55.2%) and following as riding motorbike(N=103, 20.3%) and pedestrian hit by vehicle(N=18, 5.7%). One-third of elderly with rib fracture (N=107, 34.0%) had at least one of pulmonary complication including hemothorax(N=78, 24.8%), pneumothorax(N=37, 11.8%), pneumonia(N=24, 7.7%), Respiratory failure(N=16, 5.1%) and flail chest (N=4, 1.3%).

Pulmonary complications increase as the numbers of rib fractures increased. There were moderate correlation between the numbers of rib fractures and pulmonary complication rates ($r = 0.550$, $p < 0.001$). Besides, there were no significant correlation between admission days and the numbers of rib fracture ($r = 0.007$, $p = 0.929$).

We also identified patients with more than two ribs fracture or more than two comorbidities had significant increase pulmonary complications : ≥ 3 ribs fracture(aOR :13.935, 95% CI: 6.916-28.079,) and more than two comorbidities (aOR : 3.317, 95% CI: 1.579-6.964)

Trial Registration / Funding Information (only) :

Nil

#22065 : obesity; brief transient ischemia, neuronal death; oxidative stress; neuroinflammation

Authors:

Yeon Ho Yoo (1), Won Joo Seo (1), Jun Hwi Cho (1), Joong Bum Moon (1), Taek Geun Ohk (1), Myoung Chul Shin (1), Ka Eul Kim (2), Yoon Soo Park (1), Chan Woo Park (1), Moo Ho Won (3)

1. Emergency Medicine, Kangwon National University, Chuncheonsi, Korea, Republic of
2. Emergency Medicine, Kangwon National University, Chuncheon, Korea, Republic of
3. Neurobiology, Kangwon National University, Chuncheonsi, Korea, Republic of

Keywords: obesity, brief transient ischemia, neuronal death, oxidative stress, neuroinflammation; mammalian target of rapamycin

Abstract :

Purpose: A brief episode of transient ischemia (TI) can confer cerebral ischemic tolerance against a subsequent severer TI in normal condition. The brain under obese condition is more sensitive to ischemic injury. However, impact of a brief episode of TI under obese condition has not been fully addressed yet. Thus, the objective of this study was to determine the effect of a brief TI in the hippocampus of high-fat diet (HFD)-induced obese gerbils and related mechanisms.

Materials and methods: Gerbils were maintained on HFD or normal diet (ND) for 12 weeks and subjected to a 2 min of TI. HFD gerbils were heavier with higher blood glucose, serum total cholesterol, triglycerides and leptin levels.

Results: Massive loss of pyramidal neurons occurred in the hippocampal cornu ammonis 1 (CA1) field of HFD animals at 5 days after 2 min of TI, although 2 min of TI did not elicit death of pyramidal neurons in ND gerbils. The HFD group showed significantly increased levels of oxidative stress indicators (dihydroethidium and 4-hydroxynonenal) and proinflammatory cytokines (tumor necrosis factor- α and interleukin-1 β) as well as microglia activation in pre- and/or post-ischemic phases compared to the ND group. Levels of mammalian target of rapamycin (mTOR) and phosphorylated-mTOR in the CA1 field of the HFD group were also significantly higher than the ND group. On the other hand, inhibition of mTOR activation by rapamycin (an allosteric mTOR inhibitor) significantly attenuated neuronal death induced by HFD, showing reduction of HFD-induced increases of oxidative stress indicators and proinflammatory cytokines as well as microglia activation. Taken together, a brief episode of TI can evoke neuronal death under obese condition.

Conclusions: It might be closely associated with abnormal increase of mTOR activation-mediated severe oxidative stress and neuroinflammation in pre- and/or post-ischemic phases.

#22066 : Risperidone treatment after transient ischemia induces hypothermia via 5-HT_{2A} antagonism and provides neuroprotection in the gerbil hippocampus by decreasing oxidative stress**Authors:**

Won Joo Seo (1), Jun Hwi Cho (1), Yeon Ho Yoo (1), Ka Eul Kim (2), Joong Bum Moon (1), Taek Geun Ohk (1), Chan Woo Park (1), Yoon Soo Park (1), Myoung Chul Shin (1), Moo Ho Won (3)

1. Emergency Medicine, Kangwon National University, Chuncheonsi, Korea, Republic of
2. Emergency Medicine, Kangwon National University, Chuncheon, Korea, Republic of
3. Neurobiology, Kangwon National University, Chuncheonsi, Korea, Republic of

Keywords: Ischemia/reperfusion, delayed neuronal death, antipsychotic drug, post-treatment, thermoregulation, 5-HT_{2A} antagonist

Abstract :

Purpose: Compelling evidence from preclinical and clinical studies has shown that mild hypothermia is neuroprotective against ischemic stroke. We investigated neuroprotective effect of post-risperidone (RIS) treatment against transient ischemic injury and its mechanisms in the gerbil brain.

Materials and methods: Transient ischemia (TI) was induced in the telencephalon by bilateral common carotid artery occlusion (BCCAO) for 5 min under normothermic condition ($37 \pm 0.2^\circ\text{C}$). Post-treatment of RIS induced hypothermia until 12 h after TI in the TI-induced animals under uncontrolled body temperature (UBT) compared to that under controlled body temperature (CBT) (about 37°C).

Results: Neuroprotective effect was statistically significant when we used 5 and 10 mg/kg doses ($P < 0.05$, respectively). In the RIS-treated TI group, many CA1 pyramidal neurons of the hippocampus survived under UBT compared to those under CBT. In this group under UBT, post-treatment with RIS to TI-induced animals markedly attenuated the activation of glial cells, increases of oxidative stress markers (dihydroethidium, 8-OHdG and 4-HNE), and a decrease of superoxide dismutase 2 in their CA1 pyramidal neurons. Furthermore, RIS-induced hypothermia was significantly interrupted by NBOH-2C-CN hydrochloride (a selective 5-HT_{2A} receptor agonist), but not bromocriptine mesylate (a D₂ receptor agonist).

Conclusions: Our findings indicate that RIS-induced hypothermia can effectively protect neuronal cell death from TI injury through attenuation of glial activation and maintenance of antioxidants, showing that 5-HT_{2A} receptor is involved in RIS-induced hypothermia. Therefore, RIS could be introduced to reduce body temperature rapidly and might be applied to patients for hypothermic therapy following ischemic stroke.

#22067 : Post-treatment with oxcarbazepine confers potent neuroprotection against transient global cerebral ischemic injury by activating Nrf2 defense pathway**Authors:**

Jun Hwi Cho (1), Won Joo Seo (1), Yeon Ho Yoo (1), Ka Eul Kim (2), Joong Bum Moon (1), Taek Geun Ohk (1), Chan Woo Park (1), Yoon Soo Park (1), Myoung Chul Shin (1), Moo Ho Won (3)

1. Emergency Medicine, Kangwon National University, Chuncheonsi, Korea, Republic of
2. Emergency Medicine, Kangwon National University, Chuncheon, Korea, Republic of
3. Neurobiology, Kangwon National University, Chuncheonsi, Korea, Republic of

Keywords: Oxcarbazepine, Transient global cerebral ischemia, Neuronal death, Oxidative stress, Neuroinflammation, Nuclear factor erythroid 2-related factor 2, Heme oxygenase-1

Abstract :

Purpose: Oxcarbazepine (OXC), a voltage-gated sodium channel blocker, is a new antiepileptic medication. OXC is also used for the treatment of bipolar disorders. Some voltage-gated sodium channel blockers have been demonstrated to display strong neuroprotective properties in models of cerebral ischemia. However, protective effects of OXC against ischemic brain injury and related mechanisms have not yet been reported. In this study, we investigated the protective effect of OXC and its mechanisms in the cornu ammonis 1 subfield (CA1) of gerbils subjected to 5 min of transient global cerebral ischemia (tGCI).

Materials and methods: Transient ischemia led to death of most pyramidal neurons in CA1 at 5 days after tGCI. OXC (100 and 200 mg/kg) was intraperitoneally administered once at 30 min after tGCI.

Results: Treatment with 200 mg/kg OXC, not 100 mg/kg OXC, significantly protected CA1 pyramidal neurons from tGCI-induced injury. OXC treatment significantly decreased superoxide anion production, 4-hydroxy-2-nonenal and 8-hydroxyguanine levels in ischemic CA1 pyramidal neurons. In addition, the treatment restored levels of superoxide dismutases, catalase, and glutathione peroxidase. Furthermore, the treatment distinctly inhibited tGCI-induced microglia activation and significantly reduced levels of pro-inflammatory cytokines (interleukin-1 β and tumor necrosis factor- α).

Conclusions: In particular, OXC treatment significantly enhanced expressions of nuclear factor erythroid 2-related factor 2 (Nrf2) and its downstream protein heme oxygenase-1 in ischemic CA1; however, the forenamed effects of OXC were abolished by brusatol (an inhibitor of Nrf2). Taken together, these results indicate that post-treatment of OXC can display neuroprotection against brain injuries following ischemic insults. This neuroprotection may be displayed by attenuation of oxidative stress and neuroinflammation, which can be mediated by activation of Nrf2 pathway.

#22069 : Effects of regional body temperature during asphyxial cardiac arrest on mortality and brain damage in rats**Authors:**

Yeon Ho Yoo (1), Won Joo Seo (1), Jun Hwi Cho (1), Ka Eul Kim (2), Joong Bum Moon (1), Taek Geun Ohk (1), Chan Woo Park (1), Yoon Soo Park (1), Myoung Chul Shin (1), Moo Ho Won (3)

1. Emergency Medicine, Kangwon National University, Chuncheonsi, Korea, Republic of
2. Emergency Medicine, Kangwon National University, Chuncheon, Korea, Republic of
3. Neurobiology, Kangwon National University, Chuncheonsi, Korea, Republic of

Keywords: Asphyxial cardiac arrest, ischemia; hypothermia, survival rate, neurological deficit, delayed neuronal death

Abstract :

Purpose: To date, hypothermia has focused on improving rates of resuscitation to increase survival rates in cardiac arrest (CA) patients. For this, it needs to understand what body temperature affects neuronal damage/death in the brain during CA. However, few studies on effects of regional temperature in the body during CA on survival rate and neurological outcomes have been studied.

Materials and methods: Here, we used adult male rats (12 week-old) which were subjected to 4 conditions as follows: (i) whole body normothermia ($37 \pm 0.5^\circ \text{C}$) plus (+) no asphyxial CA, (ii) whole body normothermia+CA, (iii) whole body hypothermia ($33 \pm 0.5^\circ \text{C}$)+CA, (iv) body hypothermia/brain normothermia+CA, and (v) brain hypothermia/body normothermia+CA.

Results: Survival rate after resuscitation was significantly high in groups of whole body hypothermia+CA and body hypothermia/brain normothermia+CA, but not in groups of whole body normothermia+CA and brain hypothermia/body normothermia+CA. However, the group of hypothermia/brain normothermia+CA exhibited higher neuroprotective effect against asphyxial CA injury: neurological deficit and neuronal death in the hippocampus were improved compared to those in the group of whole body normothermia+CA. In addition, neurological deficit and neuronal death in the group of brain hypothermia/body normothermia+CA were similar to those in the group of whole body normothermia+CA.

Conclusions: In brief, only brain hypothermia during CA did not show effective survival rate, neurological function and neuronal protection compared to those under body (not brain) hypothermia during CA. Our present study suggests that regional temperature in patients during CA can significantly affect outcomes in survival rate and neurological recovery.

#22089 : Do high risk head injury patients get appropriate cervical spine imaging? An Emergency Department Audit.**Authors:**

Nipuna Senaratne (1), Rebecca Ferris (1)

1. Emergency Department, Norfolk and Norwich University Hospital, Norwich, United Kingdom

Keywords: head injury, cervical spine injury, cervical spine imaging.

Abstract :**Background**

Cervical spine injuries (CSIs) are amongst the most devastating injuries following trauma. Several patient groups are at high risk of having missed CSIs. These include elderly patients where CSIs can occur with lower energy trauma and patients with a decreased conscious level (whether that be due to confusion, dementia or intoxication) where clinical assessment of CSIs is more difficult.

National and local hospital guidelines state that adults with indications for a CT head should also have a CT C-spine (CT CSP) if they fulfil one of the following criteria:

- 1) age >65
- 2) confused or GCS < 15

The objective of this audit was to assess whether patients are being appropriately sent for CT CSP according to this guideline.

Methods

A list of all adults (age >18) sent for CT Head in the Norfolk and Norwich Emergency Department from December 2018 - February 2019 (3 months) was obtained. Radiology requests were viewed for all patients and all head injury patients identified.

For these head injury radiology requests were examined to see if the patient was >65 years of age, confused (as defined by a note of confusion / intoxication in the description) or GCS <15. CT CSP requests were noted. The audit standard was 100%.

Interventions included discussion at clinical governance, teaching for Emergency Department clinicians and discussion with radiology that for ambulatory patients C-spine protection was not needed for transfer to radiology unless there was a strong suspicion of CSI.

Re-auditing took place between June 2019 – Aug 2019.

Results

During Dec 2018 – Feb 2019 47% of patients meeting the above criteria were sent for CT CSP (272/514 patients). This improved to 59% in the re-audit period June 2019 – Aug 2019 (58/99 patients).

Discussion & Conclusions

Our interventions improved the overall proportion of at-risk head injury patients that received appropriate c-spine imaging. However overall concordance with the guidelines was still fairly low on re-audit.

One recurring scenario where elderly patients were routinely not sent for CT CSP involved patients taking anticoagulants. In such patients, who are alert and orientated with no clinical suspicion of C-spine injury but meet the NICE criteria for CT Head based on use of blood thinning medication, it

is an interesting question to ask whether incorporating CT CSP is appropriate.

The incidence of acute C-spine pathology in this subgroup of head injury patients was 3% overall which lower than the reported incidence of CSI in trauma (4 to 8%). This suggests that the department is detecting fewer C-spine injuries, further emphasising the importance of high clinical suspicion and low threshold for CT scanning in high risk groups.

Overall, we show that appropriate C-spine imaging is important and may be under-utilised. Education, discussion at departmental meetings and appropriate agreements between EDs and radiology can improve decisions to image the C-Spine in head injury patients.

Trial Registration / Funding Information (only) :

No funding was obtained for this study.

#22094 : Association between prehospital arterial hypercapnia in acute heart failure and admission to acute care units : a retrospective cohort study**Authors:**

Mathias Fabre (1), Christophe Fehlmann (1), Birgit Gartner (1), Catherine Zimmermann-Ivol (2), Florian Rey (3), François Sarasin (1), Laurent Suppan (1)

1. Emergency Department, Geneva University Hospital, Geneva, Switzerland
2. Medicine Laboratory Department, Geneva University Hospital, Geneva, Switzerland
3. Cardiology Department, Geneva University Hospital, Geneva, Switzerland

Keywords: Acute Heart Failure, Arterial Blood Gas, Prehospital, Hypercapnia

Abstract :**Background**

Acute Heart Failure (AHF) is a common but life-threatening condition. It often manifests by acute respiratory distress and requires urgent medical evaluation and treatment. Arterial hypercapnia is a commonly feature found up to 40% of patients presenting with acute heart failure. Hypercapnia in Emergency Room (ER) has been associated with a higher rate of intubation and non-invasive ventilation, but nothing is known regarding its prognostic value in the prehospital setting. The goal of this study was to look at the association between prehospital hypercapnia and admission into an acute care unit.

Methods

This retrospective study was performed on charts of patients taken care of by a physician-staffed prehospital mobile unit between 01.07.2016 and 30.09.2019 in Geneva. In this unit, physicians can try to obtain arterial blood gas (ABG) in patients with respiratory distress but are only allowed one attempt that must be performed in less than 1 minute in order to avoid unnecessary delays. After approval by the local ethics committee, charts were first screened to identify all adult patients for whom a diagnosis of Heart Failure (HF) was coded by the prehospital physician. Exclusion criteria were a confounding diagnosis, a diagnosis of HF without acute component, lack of prehospital ABG (including lack of sample, venous sample, and technical problem), intubation or resuscitation before ABG, secondary transfer from another hospital or emergency structure, and care limitation defined as no acute care unit admission.

The main exposure was prehospital hypercapnia, defined as a PaCO₂ level above 6.00 kPa (45mmHg). The primary outcome was admission in an acute care unit (ACU, composite of intensive care or high-dependency unit admission). The secondary outcomes were emergency room (ER) length of stay (LOS), orientation from ER (intensive care unit, high-dependency unit, general ward, discharge home), intubation (on field or during the first 24 hours), hospital LOS and hospital mortality.

Results

Out of 976 patients with a prehospital diagnosis of Heart failure, 104 were finally included. Patients were mainly excluded because of lack of ABG (406), absence of an acute component (244) and care limitation (111).

Hypercapnia was found in 59 (57%) patients. Demographic characteristics were globally similar at baseline, but vital signs were more severely altered in hypercapnic patients.

The overall ACU admission rate was 47%, with a statistically significant difference between hypercapnic patients and non-hypercapnic patients (respectively 58% vs 33%, $p=0.014$). ER LOS was shorter in hypercapnic patients (5.5 hours versus 8.9 hours, $p=0.008$).

Conclusions

There is a significant association between prehospital arterial hypercapnia and acute care unit admission in AHF patients. Whether this can lead to a quicker orientation of such patients to acute care units should now be studied further.

Trial Registration / Funding Information (only) :

ID: 2019-01559 No funding

#22160 : Perfusion index measurement in predicting hypovolemic shock in trauma patients**Authors:**

Engin Özakin (1), Nazlı O Yazlamaz (1), Filiz B Kaya (1), EVVAH KARAKILIC (1), Muzaffer Bilgin (2)

1. Department of Emergency Medicine, Eskisehir Osmangazi University/ Faculty of Medicine, ESKİSEHİR, Turkey

2. Department of Biostatistics and Medical Informatics, Eskisehir Osmangazi University/ Faculty of Medicine, Eskisehir, Turkey

Keywords: Perfusion index, hypovolemia, trauma

Abstract :**Background**

In trauma patients, haemorrhage is the most common cause of shock and is one of the leading causes of mortality.

Objectives

This study aimed to investigate the correlation of PI values to vital signs, lactate, base deficit, shock index and evaluate the relationship between blood transfusion necessity at 24 hours.

Methods

This retrospective study included multi-trauma patients admitted to the University hospital emergency department, Turkey, between December 1, 2017, and September 5, 2018. The patients' demographic features, trauma mechanisms, vitals, laboratory values, shock parameters, blood transfusion necessity within the next 24 hours and PI measurements were obtained via recorded data. The primary outcome of the study was the of the relationship between PI value and blood transfusion resuscitation, and the secondary outcome was the utility of PI in shock classification. The primary outcome of the study was the of the relationship between PI value and blood transfusion resuscitation, and the secondary outcome was the utility of PI in shock classification.

Results

Total of 338 (235 males with an average age 41.8 ± 17.94) patients were included in the study. In 39 (11.5%) of 338 patients, peripheral perfusion index was measured <1 . The median was 4.41 (Q1-Q3: 1.9-6.3).

Positive correlation with hemoglobin ($p < 0.001$; $r: 0.320$), hematocrit ($p < 0.001$; $r: 0.294$), base deficit ($p < 0.001$; $r: 0.315$), pH ($p < 0.05$; $r: 0.235$), systolic blood pressure ($p < 0.001$; $r: 0.146$), diastolic blood pressure ($p < 0.001$; $r: 0.259$), SpO₂ ($p < 0.001$; $r: 0.197$) and the revised trauma score ($p < 0.001$; $r: 0.344$), and negative correlation with lactate ($p < 0.05$; $r: -0.117$), pulse ($p < 0.001$; $r: -0.326$), respiratory rate ($p < 0.001$; $r: -0.231$) and shock index ($p < 0.001$; $r: -0.257$) was detected. Thirty-one of the patients with PI < 1 , had blood transfusion within 24 hours ($p < 0.001$). (OR: 111.98, sensitivity: 75.6%, specificity: 97.3, PPV: 79.5%, NPV: 96.7%).

When stratified by the class of hemorrhagic shock, the patients were classified as follows: 261 (%77.2) patients as class I, 52 (%15.3) as class II, 20(%5.9) as class III, 5 (%1.4) as class IV. Table 4 shows the relationship between the class of hemorrhagic shock and PI. According to the Comparison of Column Proportions, a difference was detected between class 1 and 2, and between class 1 and 3 (both $p < 0.05$). The comparison between the shock class and quantitative PI values revealed a difference between class 1 and 2 ($p < 0.001$); between class 1 and 3 ($p < 0.001$); between class 1 and 4 ($p < 0.001$).

In predicting blood transfusion need in 24 hours, PI was more significant than lactate level, base deficit, revised trauma shock and shock index measurements according to receiver operating characteristic curve. As a result of univariate analysis, major risk factors were PI, pulse rate and spO₂. the revised trauma score ($p < 0.001$; $r: 0.344$). No relation was found between PI and age ($p = 0.999$).

Conclusion

PI values are correlated with all parameters derived in the ED and used for hemorrhagic shock classification under emergency conditions. PI measurement might be a beneficial parameter in the detection and exclusion of critical patients, and blood transfusion needs in emergency situations.

#22162 : Off hours Shift: Is it a Nightmare For tPA in Stroke Patient?

Authors:

Engin Özakin (1), Atilla Ozcan Ozdemir (2), Ozlem Aykac (2), Evvah Karakilic (3), Alper Arif Cevik (4)

1. Department of Emergency Medicine, Eskisehir Osmangazi University/ Faculty of Medicine, ESKİSEHİR, Turkey
2. Neurology Department, Eskisehir Osmangazi University/ Faculty of Medicine, Eskisehir, Turkey
3. Department of Emergency Medicine, Eskisehir Osmangazi University/ Faculty of Medicine, Eskisehir, Turkey
4. Department of Emergency Medicine, United Arab Emirates University, Al Ain, United Arab Emirates

Keywords: stroke, night shift, outcome, emergency admission

Abstract :**Background And Aims**

Emergency health care should be available for 24 hours, regardless of the time of hospital admission. Stroke is one of the leading causes of referral to the emergency department. Its' mortality and prognosis is affected by various factors. This study aimed to evaluate the effect of night shifts, weekends and holidays on clinical outcomes and mortality of ischemic stroke patients who underwent thrombolytic therapy.

Methods

The presence of symptomatic, asymptomatic and systematic hemorrhage, mortality, and 3rd-month outcome via Modified Rankin Score (mRS) were obtained. The primary aim of the study was to evaluate and compare the mortality and the poor outcome rate in patients who received thrombolysis between working hours (08.00-17.00) and off-hours (17.00-08.00, weekends and holidays).

Results

Three hundred ninety-nine acute stroke patients who admitted and received thrombolysis in our ED between 2009 and 2017 were included. Two hundred sixty-two of the 399 patients (65.7%) were admitted in off-hours. Considering the pre-hospital and emergency department workflow, symptom-needle (143 min. versus 162 min; $p:0.001$) and door-needle (63 min. versus 69 min; $p:0.025$) time was significantly longer during off-hour compared the regular work hour group. However, the door CT time did not differ between the two groups. The dramatic recovery rate (NIHSS=0-1 or >8 points improvement) was not significantly different ($p=NS$) between regular work and off-hours. At three months, good outcome (mRS: 0-2), poor outcome (mRS: 3-6) and the mortality rate were not statistically different between the two groups. The symptomatic intracerebral hemorrhage rate was statistically higher in the off-hour group compared to the regular working hour group ($p=0.005$). Asymptomatic intracerebral and systemic hemorrhage rates did not differ between the two groups ($p=NS$).

Conclusions Our results show that comprehensive stroke centers (CSCs) can improve the 'weekend effect' in stroke patients. These results may be due to the availability of 24/7 stroke specialists, advanced neuroimaging, or continuous training and surveillance of specialist nursing.

#22163 : Comparison of self versus physician-reported chest pain score for the evaluation of Emergency Department chest pain patients.**Authors:**

Ponampalam R (1), Mingwei Ng (2), Zhenghong Liu (2)

1. Emergency Physician, Singapore General Hospital, Singapore, Singapore
2. Singhealth Emergency Medicine Residency Program, MOHH, Singapore, Singapore

Keywords: Chest Pain Scores, Clinical Decision Rules, EDACS Score

Abstract :**Introduction**

Chest pain contributes to a significant proportion of Emergency Department (ED) visits and has different levels of severity with significant morbidity and mortality in patients with higher risk. Accelerated diagnostic protocols (ADP) have been studied with a view to facilitate disposition decisions for low-risk chest pain patients in the ED. Amongst the different ADP's for chest pain, the ED Assessment of Chest pain Score (EDACS) is derived solely on the patient's responses without the need for troponin values or ECG interpretation and hence can be self-reported by patients. The objective of this pilot study was to determine the correlation between self-reported EDACS at triage and physician reported EDACS at consultation as reference standard.

Method

Patients presenting with chest pain to the ED of a tertiary hospital in Singapore were recruited via convenience sampling. They were administered a self-reported questionnaire based on EDACS score following triage. The ED physician attending to the patient was kept blinded to the self-reported questionnaire and was subsequently tasked to independently complete an identical questionnaire which was used to derive the physician reported EDACS. The final clinical decision on disposition remained at the discretion of the treating clinician, and study team members made no attempts to either influence or intervene in clinical management. The disposition of the patient and outcome (whether the patient suffered any major adverse cardiac events (MACE) (as defined by myocardial infarction, need for cardiac revascularization or death) within 30 days were tracked.

Results

A total of 59 patients were recruited. The MACE incidence rate in this group of patients was 8.5%. 15/59 patients (25.4%) had differences in the absolute scores for their self-versus physician reported EDACS. However, none had differences so disparate that they were classified differently as "low risk" (EDACS<15) or "high risk" (EDACS ≥15) based on self-reported scores compared to physician-reported scores. 11/15 patients (73.3%) gave themselves a higher EDACS score when self-reporting their symptoms, with younger patients more likely to account for the difference. Amongst cardiovascular risk factors reported, the component for which self-reported scores were most likely to differ from physician-reported scores was the family history (9/59, 15.3%) and history of hypercholesterolemia (7/59, 11.9%). Radiation of chest pain and presence of diaphoresis were also difficult concepts for patients to interpret, with 5/59 patients (8.5%) and 4/59 patients (6.8%) respectively having differing scores in these components.

Discussion

This study found that self-reported EDACS scores at triage are comparable to physician reported EDACS scores; even if they should differ, self-reported EDACS scores are more likely to be conservative and overcall the patient's risk of an adverse cardiac event compared to assessment by a physician. Some degree of self-overreporting is expected as patients presenting to the emergency department are more likely to be convinced that they had worrisome features of chest pain.

Conclusion

Self-reported EDACS score appears to be reliable and comparable to physician-reported scores. Its application could significantly impact the way ED patients with chest pain are evaluated at triage in future.

Trial Registration / Funding Information (only) :

Nil

#22173 : The value of further cardiac assessments for patients ruled-out for acute myocardial infarction using a rapid high sensitivity troponin I algorithm, but not ED discharged**Authors:**

Richard Nowak (1), Robert Christenson (2), Gordon Jacobsen (3), James McCord (4), Alexander Limkakeng (5), Fred Apple (6), Adam Singer (7), William Peacock (8), Christopher deFilippi (9)

1. Emergency Department, Henry Ford Health System, Detroit, USA
2. Laboratory Medicine , University of Maryland, Baltimore, USA
3. Biostatistics, Henry Ford Hospital, Detroit, USA
4. Cardiology, Henry Ford Hospital, Detroit, USA
5. Emergency Department, Duke University School of Medicine, Durham, USA
6. Department of Laboratory Services and Pathology, Hennepin County Medical Center, Minneapolis, USA
7. Emergency Department, SUNY Stony Brook, New York, USA
8. Emergency Department, Baylor College of Medicine, Houston, USA
9. Cardiology, Inova Heart and Vascular Institute , Falls Church, USA

Keywords: hs-cTnI, Emergency Department, Cardiac testing

Abstract :

Background: The multicenter High Sensitivity Cardiac Troponin I (hs-cTnI) in the United States (US) study (HIGH-US) reported a 1-hour hs-cTnI algorithm that ruled-out acute myocardial infarction (AMI) in 1020 (42.7%) patients (negative predictive value 99.7%, sensitivity 98.7%). Of these 436 (42.7%) were not discharged from the Emergency Department (ED). Our purpose was to describe the cardiac testing and interventions that were completed in this AMI ruled-out group placed in an observation unit and/or admitted to the hospital (OBS/ADM).

Methods: 2113 consenting adults presenting with any symptoms suspicious for AMI were enrolled (2015-2016) in 29 US medical centers. There were no exclusion criteria. Baseline and 1-hour plasma samples were analyzed using the Siemens Atellica hs-cTnI assay (99th %, 45.2 ng/L). AMI diagnosis was independently adjudicated by a combination of cardiologists and ED physicians using local contemporary troponin assays and all 30-day available clinical data. All cardiac stress test (CST), coronary angiogram (CA) and coronary revascularization (CR) reports for the OBS/ADM patients were analyzed.

Results: Of the 436 hs-cTnI AMI ruled-out AMI ruled individuals but placed in OBS/ADM after contemporary clinical assessments, none had an AMI/death while in the hospital. At 30-days 1 AMI and 1 death (2 or 0.5%: one at 7 days and 1 at 28 days) had occurred. No cardiac testing was done in 176 (40.4%) individuals. All further cardiac testing and/or interventions that were completed in some of the remaining patients are as follows. 175 patients (40.1%) received a cardiac stress test (CST) with most results bring normal (81.7%). Coronary angiography (CA) was subsequently done in 34.4 % of those with an abnormal and in 9.1% of patients having a normal CST. Abnormal CA results were reported in approximately 50% of the patients in each of these groups having a CST. Of the 85 (19.5%) patients receiving a CA without a prior CST 47 (55.3%) were abnormal. Overall, of all the AMI ruled out OBS/ADM patients 26 (6.0%) received a CR procedure (1 coronary artery bypass surgery and 25 percutaneous coronary interventions). Additionally, the mean length of stay (LOS) was longer in the OBS/ADM group compared to those discharged from the ED (2.0 ± 2.2 v 0.6 ± 0.2 days, $p < 0.001$).

Discussion and Conclusions: 436 (42.7%) patients in the HIGH-US study who ruled out for AMI had an OBS/ADM disposition based on contemporary ED practice. The use of a hs-cTnI algorithm to rapidly rule-out AMI in this patient group would have identified many individuals who could have been alternatively managed resulting in shorter LOS and receiving less CSTs and CAs and fewer CR procedures. Our findings, along with recent evidence that CR without AMI does not reduce AMI/death, demonstrate that in the US the implementation of a rapid AMI rule-out hs-cTnI algorithm has the potential to safely reduce the previous OBS/ADM rates of these patients, as well as the urgent cardiac testing and coronary interventions that subsequently occurred.

Trial Registration / Funding Information (only) :

This trial was not registered as it was an observational study. The study was funded by Siemens Healthcare Diagnostics.

#22175 : Efficacy of transarterial embolization for complex pelvic trauma: a post hoc analysis of nationwide multicenter trauma database in Japan**Authors:**

Tanaka Chie (1), Fumihiko Nakayama (1), Takashi Tagami (2), Kyoko Unemoto (3), Masamune Kuno (1)

1. Emergency and Critical Care Medicine, Nippon Medical School Tama Nagayama Hospital, Tokyo, Japan
2. Emergency and Critical Care Medicine, Nippon Medical School Musashi Kosugi Hospital, Tokyo, Japan
3. Emergency and Critical Care Medicine, Nippon Medical School Tama Nagayama Hospital, Tokyo, Japan

Keywords: pelvic injury, transarterial embolization

Abstract :

Background:

Complex pelvic injuries are one of the most fatal traumas and the treatment strategy should keep into consideration the hemodynamic status, the anatomical type of fracture and the associated injuries. According to the World Society of Emergency Surgery guidelines, the combination therapies of preperitoneal pelvic packing, temporary mechanical stabilization, resuscitative endovascular balloon occlusion of the aorta, and angioembolization is recommended for pelvic injury. However, there were few studies which evaluated the efficacy of transcatheter arterial embolization (TAE) itself.

OBJECTIVES:

We aimed to investigate the efficacy of urgent TAE on mortality of severe pelvic injury patients.

METHODS:

We retrospectively identified adult patients with isolated blunt pelvic injury (Abbreviated Injury Scale (AIS)3-5) from the 2004-2018 Japan Trauma Data Bank which was multicenter observational study. Primary outcome measure was in-hospital mortality. Secondly outcome measures were the rate of red blood cell transfusion within 24 hours after admission and the length of hospital stay (LOS). We grouped the records into two: patients with urgent TAE and without urgent TAE. We compared two groups about mortality rates (χ^2 test or Fisher's test). We further performed multiple imputation and multivariable analysis for comparing mortality between the two, after adjusting for known potential components (age, gender, Glasgow Coma Scale score on arrival, systolic blood pressure on arrival, ISS score, pelvic AIS score and external fixation) and for within-hospital clustering using generalized estimating equation.

RESULTS :

From 345932 trauma patients registered in this database, we analyzed 4207 patients. 799 were performed urgent TAE. There was significantly difference between the two groups about in-hospital mortality (with TAE, 7.4%; without TAE, 4.0%; $p < 0.01$). The transfusion rate for patients with urgent TAE was higher than for patients without urgent TAE (with TAE, 69.9%; without TAE, 30.1%; $p < 0.01$). The median LOS of urgent TAE group were longer than that of non-urgent TAE group. (with TAE, 31 days; without TAE, 29 days; $p < 0.01$).

However, logistic regression analysis revealed that mortality of patient who was performed urgent TAE significantly decreased after adjusted for factors independently associated with mortality (odds ratio 0.60; 95% confidence interval; 0.38-0.97, $p = 0.04$).

CONCLUSION :

Urgent TAE might be an effective treatment for severe pelvic injury regardless of the pelvic AIS score and the systolic blood pressure on arrival, from the multicenter observational trauma database in Japan.

#22177 : Disposition decision making by emergency physicians for patients ruled-out for acute myocardial infarction using a rapid high sensitivity troponin I algorithm**Authors:**

Richard Nowak (1), Gordon Jacobsen (2), Alexander Limkakeng (3), Robert Christenson (4), Fred Apple (5), James McCord (6), Adam Singer (7), William Peacock (8), Christopher deFilippi (9)

1. Emergency Department, Henry Ford Health System, Detroit, USA
2. Biostatistics, Henry Ford Hospital, Detroit, USA
3. Emergency Department, Duke University School of Medicine, Durham, USA
4. Laboratory Medicine , University of Maryland, Baltimore, USA
5. Department of Laboratory Services and Pathology, Hennepin County Medical Center, Minneapolis, USA
6. Cardiology, Henry Ford Hospital, Detroit, USA
7. Emergency Department, SUNY Stoney Brook, New York, USA
8. Emergency Department, Baylor College of Medicine, Houston, USA
9. Cardiology, Inova Heart and Vascular Institute , Falls Church, USA

Keywords: Myocardial infarction, Emergency Department, hs-cTnI

Abstract :

Background: The multicenter High Sensitivity Cardiac Troponin I (hs-cTnI) in the United States (US) (HIGH-US) study has reported a baseline/1-hour Emergency Department (ED) hs-cTnI algorithm with an acute myocardial infarction (AMI) rule-out rate of 50.4% with a negative predictive value of 99.7% (95% confidence interval [CI]: 99.2-99.9) and a sensitivity of 98.7% (95% CI: 96.3-99.7). In the AMI ruled-out patients the 30-day AMI/all cause death rate was 0.2%. Our objective was to describe any differential clinical characteristics of the AMI ruled-out patients placed in observation/inpatient beds (OBS/ADM) as compared to those with an ED discharge (EDD).

Methods: 2113 consenting adults presenting with any symptoms suspicious for AMI and having a troponin measurement ordered by the treating ED physician were enrolled (after informed consent was obtained) from 2015-2016 in 29 US medical centers. There were no exclusion criteria for this study. Baseline and 1-hour plasma samples were analyzed using the Siemens Atellica hs-cTnI assay (99th % = 45.2 ng/L). AMI diagnosis was independently adjudicated by cardiologists and ED physicians using local contemporary troponin assays and all 30-day available clinical information. Patients were placed in OBS/ADM or EDD according to local practice during the study period. A multivariate analysis of the clinical variables favoring OBS/ADM rather than EDD was performed.

Results: 1020 (48.3%) individuals were ruled out for AMI at 1 hour. Of these, 584 (57.3%) were EDD and 436 (42.7%) were placed in OBS/ADM. The 30-day AMI/death rates in these 2 groups were not significantly different (0.0% v 0.5% {2 patients, one on day 7 and one on day 28}, $p=0.185$). Stepwise logistic modeling included 25 relevant demographic and clinical characteristics for patients suspected as having AMI or coronary artery disease (CAD) A multivariate analysis of these various parameters identified five clinical features that were significantly associated (all $p < 0.05$) with a decision to place patients in OBS/ADM rather than having an EDD. These included a history of CAD, previous stroke, history of hypertension or having an abnormal ECG or a family history of CAD The odds ratio estimates for these five individual parameters favoring a OBS/ADM disposition decision were 2.940 (95% CI: 1.999-4.325), 2.742 (95% CI: 1.4670-5.148), 1.895 (95% CI: 1.361-2.638), 1.766 (95% CI: 1.292-2.413) and 1.399 (95% CI: 1.024-1.012) respectively.

Discussion and Conclusions: Of the many potential factors that could influence the decision for an extended length of stay for patients at very low risk for AMI/death within 30 days, those with a history of coronary artery disease (CAD), stroke, hypertension or having an abnormal ECG or a family history of CAD were likely to be placed in OBS/ADM rather than having an EDD. Considering the excellent prognosis for these patients and recent evidence showing that revascularization in the absence of AMI does not reduce AMI/death compared to medical therapy, reliance on clinical variables should be judiciously considered and systems developed to reduce the frequent decisions for extended stay for this patient population.

Trial Registration / Funding Information (only) :

There was no trial registration as this was an observational study. The study was funded by Siemens Healthcare Diagnostics.

#22181 : Development of chemical - mass casualty incidents response education module (C-MCIREM) for tabletop drill simulation.

Authors:

Heejun Shin (1), Myeong-sik Kim (2)

1. Assistant professor of emergency department , Department of Emergency Medicine, Soonchunhyang University, Bucheon city, Korea, Republic of
2. Resident of emergency department , Soonchunhyang University Bucheon Hospital , Bucheon city, Korea, Republic of

Keywords: Disaster Medicine, Disasters, Chemical Incidents, Medical Education, Mass Casualty Incidents

Abstract :

Abstract title: Development of chemical - mass casualty incidents response education module (C-MCIREM) for tabletop drill simulation.

Background: The chemical-mass casualty incident response education module (C-MCIREM) requires additional consideration of factors such as personal protective equipment, chemical triage, decontamination and antidote in existing mass casualty incident (MCI). This study aims to make these factors into game form and make them modular in order to be compatible with other existing tabletop drill simulations.

Summary of work or concepts: This study was conducted for 7 months from March to September 2019, with funding from Gyeonggi-do Provincial Government in South Korea. A total of 15 people, including doctors, nurses, emergency medical technicians (EMTs) from Soonchunhyang University Bucheon Hospital and Gyeonggi-do Emergency Medical Support Center representatives, participated in the idea meeting for game module development. Based on the meetings, we produced theoretical and practical correspondence materials and tabletop format training drills. A total of 60 patient cards which were composed of chemically damaged patients including vital signs, consciousness, and major complaints were developed. In the pre-hospital phase, pre-decontamination chemical triage (a concept published by 2016 Anan et al.) was carried out after MASS triage. START triage for emergency medical service (EMS) personnel and post-decontamination chemical triage (a concept of CBRNE triage published by 2005 Cone et al.) were used after decontamination for disaster medical assistance team (DMAT). In the hospital phase, pre-decontamination chemical triage and post-decontamination chemical triage were used as chemical triages. In addition, the decontamination process was implemented like game process on the map and the evaluation index was made to objectify the educational outcome on both pre-hospital and hospital phase.

Discussion and conclusions: It would be better if the prehospital chemical triage was unified to both EMS personnel and DMAT. However, due to the limitation of the practical scope of work of EMTs in South Korea, START is the post-decontamination triage for EMTs in prehospital setting in this training. However, this format can be modified and applied according to the situation of each country. Therefore, it is not expected that education for trainees in countries other than South Korea will be greatly affected. The C-MCIREM features that are compatible at both pre-hospital and hospital phase of tabletop drill simulation and are expected to contribute to effective chemical MCI response teaching aids for health care professionals and medical students.

#22182 : Acute facial edema caused by superior vena cava syndrome mimicking angioedema

Authors:

Borhen Wu (1)

1. Emergency physician, Taipei City Hospital, Zhongxing Branch, Taipei, Taiwan, China

Keywords: superior vena cava syndrome

CT scans

Patient images are involved and I have adequate permission to use them

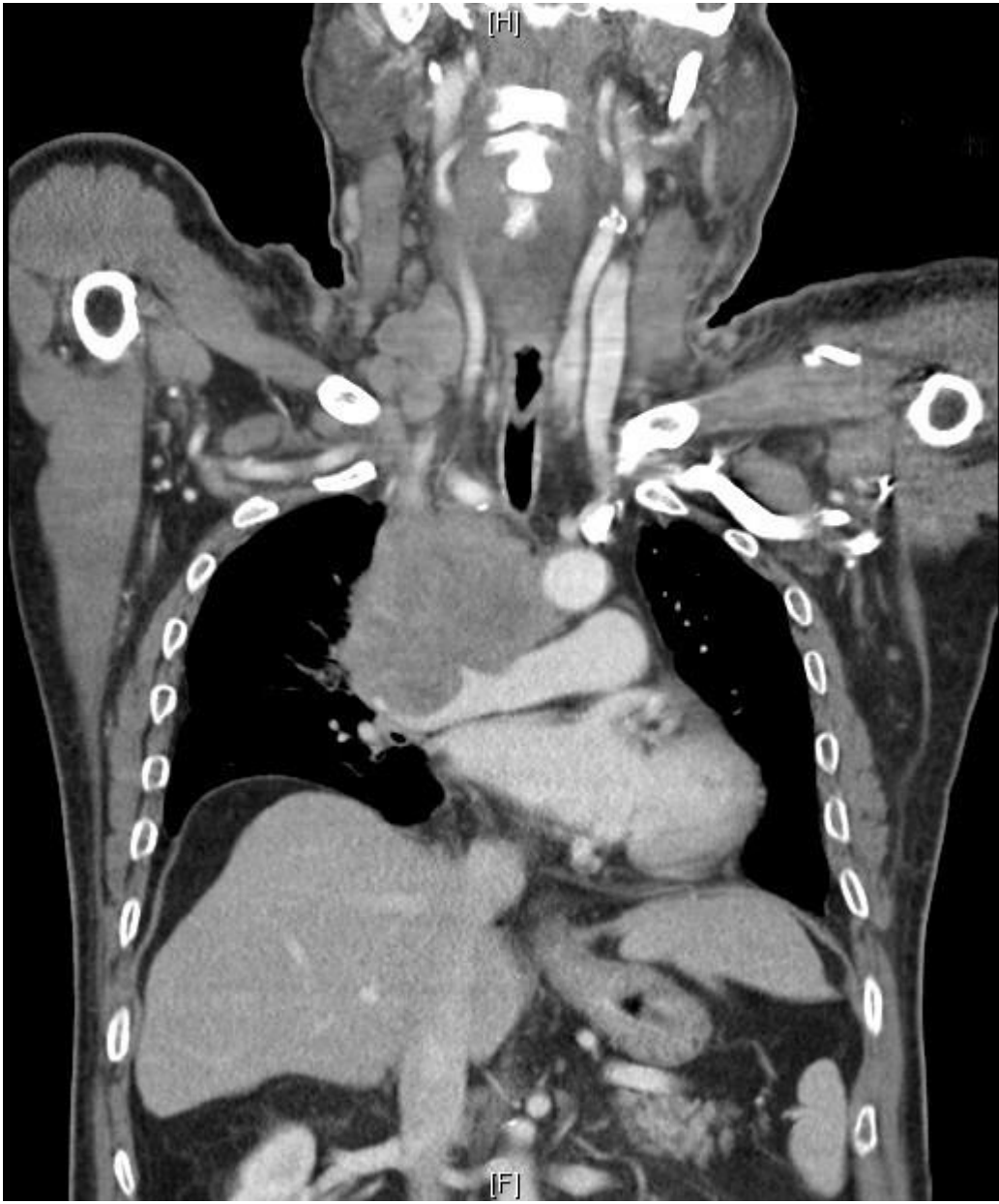
Abstract :

This is a 78 years old man who had old cerebral infarction with left hemiparesis and lived in the nursing home for few years. He was discovered to have facial edema by the caregiver one day in the morning and was normal last night. He complained of mild shortness of breath without cough, and didn't take any new medication or new foods recently.

Physical examination revealed edema of his face, eyelid, and lips, but no edema of extremities. There were no distended jugular vein or itching skin rash. He had normal breathing sound on auscultation.

We treated him as angioedema initially, however, we still took blood exam and chest radiograph because of irrelevant history of angioedema. The lab data was insignificant, but chest radiograph(CXR) showed widened mediastinum and right upper lung haziness. This made us to do further image study; we performed point of care ultrasound (POCUS) first and found distended right external jugular vein with echogenic thrombus, few B lines in the right upper lung and minimal right side pleural effusion. Then the subsequent computed tomography(CT) disclosed a huge mediastinal tumor, by which the superior vena cava(SVC) was encased. So the acute facial edema was caused by SVC syndrome not angioedema. After admission, the CT guided biopsy proved small cell lung cancer.

What we've learned from this case is that typical signs expected in the SVC syndrome such as distended neck veins, distended chest wall vein collaterals, upper extremity swelling were not seen in our case. It was the irrelevant history and lack of other dermatologic signs in angioedema that made us to do more tests. POCUS helped us to detect distended external jugular vein with thrombus, which weren't seen on the physical examination. It strengthened and proved our thought about SVC syndrome. We think in case of acute facial edema, more tests should be done when the diagnosis is in doubt, and POCUS may be a good choice.



Attachment: IMG_2676.jpg

#22183 : A case of acute facial edema caused by superior vena cava syndrome mimicking angioedema**Authors:**

Borhen Wu (1)

1. Emergency physician, Taipei City Hospital, Zhongxing Branch, Taipei, Taiwan, China

Keywords: superior vena cava syndrome

Abstract :

This is a 78 years old man who had old cerebral infarction with left hemiparesis and stayed in the nursing home for few years. He was discovered acute facial edema by the caregiver one day in the morning and brought to our emergency department and was told normal last night. He had mild shortness of breath without cough, and didn't take any new medication or new foods recently.

Physical examination revealed edematous change of his face, eyelid, and lips. There were no distended jugular vein or itching skin rash. He had normal breathing sound on auscultation. There were no edema of extremities.

We treated him as angioedema, however, we still took blood exam and chest radiograph because of irrelevant history of angioedema. The lab data was insignificant, but chest radiograph showed widened mediastinum and right upper lung haziness. This made us to do further image study; we performed point of care ultrasound (POCUS) first and found distended right external jugular vein with echogenic thrombus, few B lines in the right upper lung and minimal right side pleural effusion. Then the subsequent computed tomography(CT) disclosed a huge mediastinal tumor, by which the superior vena cava(SVC) was encased. So the acute facial edema was caused by SVC syndrome not angioedema. After admission, the CT guided biopsy proved small cell lung cancer.

What we've learned from this case is that typical signs expected in the SVC syndrome such as distended neck veins, distended chest wall vein collaterals, upper extremity swelling were not seen in our case. It was the irrelevant history and lack of other dermatologic signs in angioedema that made us to do more tests.

POCUS helped us to detect distended external jugular vein with thrombus, which weren't seen on the physical examination. It strengthened and proved our thought about SVC syndrome. We think in case of acute facial edema, more tests should be done when the diagnosis is in doubt, and POCUS may be a good choice.

Attachment: cxr.jpg

#22190 : Bag valve mask versus endotracheal intubation in out-of-hospital cardiac arrest on return of spontaneous circulation: a national database study

Authors:

Chaiyaporn Yuksen (1)

1. , Ramathobodi hospital , Bangkok, Thailand

Keywords: return of spontaneous circulation; CPR; airway management

Abstract :

Background: Out-of-hospital cardiac arrest is the main issue for pre-hospital emergency care. There are several airway managements during the out-of-hospital CPR such as endotracheal intubation (ETI) or alternative airway device: bag valve mask (BVM). Data comparing both methods showed inconclusive results on survival and limited on CPR outcome. This study aimed to add additional results on comparing the ETI and BVM in cardiac arrest outside hospitals; focused on the CPR outcome.

Methods: This study was a retrospective, analytical study. The inclusion criteria were adult patients (age of 18 years or over) with out-of-hospital cardiac arrest received emergency life support and received either BVM or ETI. Data were retrieved from the Information Technology of Emergency Medical Service. The outcome was a return of spontaneous circulation (ROSC).

Results: During the study period, there were 1,070 patients with out-of-hospital cardiac arrest who met the study criteria. Of those, 800 patients (74.77%) received BVM, while the other 270 patients (25.23%) received ETI. There were five significant factors between both groups including mean distance to scene and proportions of response time less than 8 minutes, defibrillation, intravenous fluid administration, and adrenaline administration. There was no significant difference in the outcome: ROSC. The BVM group had a slightly higher rate of ROSC than the ETI group (19.63% vs 15.56%; p-value 0.148).

Conclusions: The BVM and ETI had comparable ROCS rates for out-of-hospital cardiac arrest victims. However, the study population of the BVM group was less severe and received faster treatment than the ETI group.

Trial Registration / Funding Information (only) :

No

#22199 : IMPACT IN THE ELDERLY OF SEVERITY OF PULMONARY EMBOLISM AS MASSIVE PULMONARY EMBOLISM ON THE EARLY RECOGNITION IN THE EMERGENCY DEPARTMENT**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), GIOVANNI RICEVUTI (1), FEDERICA MANZONI (4), Viola Novelli (5), Michele Pagani (6), Massimiliano Lava (7), Silvia Mongodi (6), FRANCESCO Mojoli (6), Maria Antonietta Bressan (8), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ELDERLY; ACUTE PULMONARY EMBOLISM ; MASSIVE PULMONARY EMBOLISM ; EMERGENCY DEPARTMENT

Abstract :

BACKGROUND: pulmonary embolism diagnosis represents a challenge for the emergency doctor and the frequency of missed diagnosis is a real and vivid problem, not only in the urgency environment.

There is however the diffuse opinion among clinicians that massive pulmonary embolism is easier to be recognized.

AIM: analyzing the clinical manifestations and assess the earliness of identification from the Triage, in an Emergency Department divided in differentiated areas of care intensity, amongst elderly patients (age >65 years) arrived with symptoms that suggested, in an emergency situation, the diagnosis of pulmonary embolism, comparing those who presented massive pulmonary embolism to those presenting a peripheral manifestation.

METHODS: monocentric retrospective observational study from 01/01/2017 to 31/12/2018.

We analyzed the assignment of the priority code for the medical examination and the correct allocation of the patient in the most suitable area of care. We then proceeded to calculate the under-triage of the two groups.

RESULTS: 72 patients were recruited, of which 41 with massive pulmonary embolism and 31 with peripheral manifestation. The two groups are superimposable according to age (mean age 78 years) and for a minimal female prevalence (58% vs 54%).

Concerning the assignment of a priority code for the medical examination, the patients with massive pulmonary embolism presented a slight increase in the rate of high priority codes, however without reaching statistical significance. In particular, they had a rate of white codes of 0%; green codes 25%; yellow codes–low intensity care of 0%; yellow codes–high intensity care of 75%; red codes of 0%. Patients presenting with peripheral pulmonary

embolism presented a rate of white codes of 4%; green codes of 33%; yellow codes–low intensity care of 4%; yellow codes–high intensity care of 55%; red codes of 4%. Concerning the allocation towards the medium intensity care unit, there is a higher allocation of patient with massive pulmonary embolism compared to patients with peripheral pulmonary embolism (75% vs 59%). The rate of under–triage is superior in patients with peripheral pulmonary embolism (25% massive vs 41% peripheral).

CONCLUSIONS: the results show that the subpopulation of patient with peripheral pulmonary embolism more frequently undergoes to under–triage compared to the subpopulation with massive pulmonary embolism. However, both the populations present a suboptimal triage performance compared to the hoped–for result. This data however is in line with international literature data, that consider pulmonary embolism as one of the most frequently underdiagnosed pathology. The pulmonary embolism confirm itself as a threat and a challenge in every sense for the Emergency Department system.

#22200 : IMPACT ON ELDERLY POPULATION OF THE PRESENCE OF ORGAN DAMAGE IN PULMONARY EMBOLISM ON THE EARLY RECOGNITION IN THE EMERGENCY DEPARTMENT FROM THE ADMISSION.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), Michele Pagani (4), Silvia Mongodi (4), FRANCESCO Mojoli (4), FEDERICA MANZONI (5), Massimiliano Lava (6), Sarah Macedonio (7), Paolo Maggioni (6), Viola Novelli (8), Alba Muzzi (9), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (10), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
10. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ELDERLY ; ORGAN DAMAGE ; ACUTE PULMONARY EMBOLISM ; EMERGENCY DEPARTMENT

Abstract :

BACKGROUND: as underlined by the European and international guidelines the diagnosis of pulmonary embolism represents a challenge for the emergency doctor and the frequency of missed diagnosis is a real and active problem, not only in the emergency context. There is anyway the diffuse opinion among clinicians that pulmonary embolism associated with organ damage is easier to be recognized.

AIM: analyzing the clinical manifestations and assess the earliness of detection from the Triage, in an Emergency Department divided in different areas of care intensity, in elderly patients (age >65 years) with acute pulmonary embolism, comparing those presenting with organ damage to those not presenting it.

METHODS: monocentric retrospective observational study from 01/01/2017 to 31/12/2018.

We analyzed the attribution of a priority code for the medical examination and the correct allocation of patients in the most suitable area of care. We then proceeded in calculating the under-triage in the two groups.

An expert radiologist has revised the CT scan and identified the organ damage intended as dilation of right heart chambers, dilation of the pulmonary artery and presence of pulmonary infarction.

RESULTS: 72 patients were recruited, of which 30 with organ damage and 42 without it. The two groups were comparable for the age (mean age of 78 years). The group with organ damage showed a female prevalence (65%), while the group without organ damage didn't show a specific gender prevalence (female/male 50%).

Concerning attribution of the priority code for the medical examination, the patients with organ damage were given a white code in 0% of cases; green code in 19% of cases; yellow code–low intensity of care in 3% of cases; yellow code–high intensity of care in 68% of cases; red code in 3% of cases.

Patients not presenting organ damage were given a white code in 3% of cases; green code in 33%; yellow code–low intensity of care in 3% of cases; yellow code–high intensity in 61% of cases. Red code in 0% of cases.

Concerning the allocation towards the medium intensity care, patients with organ damage are more directed to the medium intensity care compared to the patients without it (71% vs 61%), however without reaching statistical significance. The rate of under–triage is higher in patient with pulmonary embolism without organ damage (29% with organ damage vs 39% without it).

CONCLUSIONS: the results show that the subpopulation of elderly patients with pulmonary embolism without organ damage is more frequently subjected to under–triage. However, both the populations showed a suboptimal triage performance compared to the hoped–for result. This unfortunately is in line with international literature data, that consider pulmonary embolism as one of the most frequently under diagnosed pathology. The pulmonary embolism confirm itself as a threat and a challenge in every sense for the Emergency Department system.

#22201 : ELDERLY WITH PULMONARY EMBOLISM PRESENTING TO THE EMERGENCY DEPARTMENT: PHENOMENOLOGY OF THE CLINIC AND DIFFICULTIES OF ATYPICAL SYMPTOMS.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), Alba Muzzi (4), Viola Novelli (5), Michele Pagani (6), Silvia Mongodi (6), FRANCESCO Mojoli (6), Paolo Maggioni (7), FEDERICA MANZONI (8), GIOVANNI RICEVUTI (1), Massimiliano Lava (7), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
5. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ELDERLY ; ACUTE PULMONARY EMBOLISM ; EMERGENCY DEPARTMENT ; ATYPICAL SYMPTOMS.

Abstract :

BACKGROUND: the diagnosis of pulmonary embolism represents a challenge for the emergency doctor, also for its varied symptomatology. The symptoms of pulmonary embolism are extremely nonspecific. In the majority of cases, it presents with at least one of the most frequent symptoms, the so called “typical symptoms”, as dyspnea, thoracic pain, signs/symptoms of deep vein thrombosis, syncope. In the case in which none of these symptoms, alone or combined, is present, the patient will present an atypical symptomatology.

AIM: Analyzing patient over 65 years of age, affected by acute pulmonary embolism, and comparing those presenting typical symptoms with those presenting with atypical symptomatology.

METHODS: monocentric retrospective observational study on a group of elderly patients that includes all whom arrived at our emergency department and that received a diagnosis of pulmonary embolism. The recruitment started on 01/01/2017 and ended on 31/12/2018.

Data were collected from the anamnesis, from the physical exams, from the imaging and laboratory tests; the specific scores of the diagnostic–therapeutic algorithm of the pulmonary embolism were calculated, both for the pulmonary embolism risk (Wells, Geneva e Years), both for the mortality risk at 30 days from the onset (sPESI).

RESULTS: 71 patients were recruited, of which 56 with typical symptomatology and 15 with atypical symptoms. The two groups are comparable for the mean age (respectively 78 and 77 years). The typical patients group showed a slight female majority (59%), while the atypical group showed a slight masculine majority (56%). Regarding the vital parameters, the patients with atypical symptomatology had desaturation <90% (25% vs 13.7%) and tachycardia with HR > 110 bpm (25% vs 10.3%). Despite this data, the patients with atypical symptomatology were underestimated at the Triage and more often it was given them a low priority code for the medical visit (35% vs 23%). Concerning the severity of pulmonary embolism, the patients presenting with typical symptoms showed a slight increase in the prevalence of massive pulmonary embolism (54%) compared to the atypical (47%), while the prevalence of organ

damage (as right ventricle dilation, dilation of the pulmonary artery, presence of pulmonary infarct; respectively 39% and 38%) was equivalent. Concerning outcomes, the patients with atypical symptomatology presented a moderate increase of prevalence of an augmented short-term mortality risk, calculated with sPESI index (47% vs 44%), while no differences are present amongst the two groups for the length of stay and the need of hospitalization in the Intensive Care unit.

CONCLUSIONS: the results show that the subpopulation of patients with atypical symptoms is not negligible (21%) and is often underrecognized at the Triage, while it doesn't differ in a significative way for the severity of pulmonary embolism and for its outcomes.

#22203 : SHOCK INDEXES DERIVED FROM VITAL PARAMETERS: THEIR ROLE IN STRATIFICATION OF RISK IN THE ELDERLY POPULATIONS WITH ACUTE PULMONARY EMBOLISM. MARKERS OF GREATER SEVERITY AND WORSE OUTCOMES**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), Michele Pagani (4), Alba Muzzi (5), Viola Novelli (6), Paolo Maggioni (7), Massimiliano Lava (7), FRANCESCO Mojoli (4), Silvia Mongodi (4), FEDERICA MANZONI (8), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
6. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: SHOCK INDEXES ; ELDERLY POPULATIONS ; ACUTE PULMONARY EMBOLISM ; EMERGENCY DEPARTMENT

Abstract :

AIM: Assess the ability of shock indexes derived from vital parameters in predicting, in a population of elderly patients and affected by acute pulmonary embolism, the severity grade of pulmonary embolism intended as presence of massive pulmonary embolism, presence of organ damage and increase of short-term mortality score (sPESI).

METHODS: Monocentric, retrospective observational study on a group of patients older than 65 years arrived at our emergency department and that received in acute the diagnosis of pulmonary embolism. The recruitment started on 01/01/2017 and ended on 31/12/2018.

Data were collected from the anamnesis, from the physical exams, from the imaging and laboratory tests; the mortality risk at 30 days from the onset score (sPESI) was calculated. All the CT scan were revised by a radiologist expert in pulmonary embolism report.

RESULTS: 72 patients were recruited. The mean age of selected patient is 78 years old. 42.7% of patients are males. The shock indexes that were considered are: shock index (SI), modified shock index (MSI) and age-shock index (age-SI). They are averagely higher in patients with massive pulmonary embolism. In particular, the SI was altered in 30% of patients with massive pulmonary embolism and in 16% of patients with peripheral pulmonary embolism.

Similar data were obtained for MSI (altered in 12% in massive, compared to 6% of peripheral). More interesting were data concerning age-SI, altered in 62% of cases of massive pulmonary embolism and only in 24% of peripheral pulmonary embolism. The indexes were also averagely higher in patients with organ damage of pulmonary embolism (intended as presence of pulmonary infarct and/or right ventricle dilation or dilation of pulmonary artery). The SI was altered in 23% of patients with organ damage of pulmonary embolism origin and in 17% of patients without it. Similar data were obtained from the MSI (altered in 10% compared with 9%). More interesting also in this case were the data of age-SI, that was altered in 56% of patients with organ damage of pulmonary embolism origin and only in

36% of the patients without it. The values of the shock indexes considered were also averagely higher in patients with high short-term mortality index (sPESI), comparing classes with sPESI equal to 0 and 1 to the class with sPESI > 1. In particular SI was altered in 31% of patients with elevated sPESI and in 18% of non-elevated sPESI. Similar data were obtained for MSI (altered in 24% compared to 3%). More interesting were the data of age-SI, altered in 58% of patients with elevated sPESI and only in 35% of patients with non-elevated sPESI.

CONCLUSIONS: The shock indexes are easily available from the start, being obtained by the vital parameters and the patients' personal data. They allow, after posing the diagnostic hypothesis of pulmonary embolism, an immediate identification of the most severe patients that present massive pulmonary embolism, higher short-term mortality risk and organ damage. Their efficacy in the elderly population is good, with age-SI possibly being the best method to immediately identify the patients at higher risk.

#22204 : IMPACT OF ORGAN DAMAGE IN THE PULMONARY EMBOLISM ON THE ADHERENCE AT GUIDELINES. EXPERIENCE OF AN EMERGENCY ROOM DIVISE TO AREE OF CURA INTENSITY.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), Michele Pagani (4), Paolo Maggioni (5), FRANCESCO Mojoli (4), Silvia Mongodi (4), FEDERICA MANZONI (6), Massimiliano Lava (5), Viola Novelli (7), Alba Muzzi (8), Maria Antonietta Bressan (9), GIOVANNI RICEVUTI (1), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ; ORGAN DAMAGE ; ACUTE PULMONARY EMBOLISM ; ADHERENCE AT GUIDELINES ; EMERGENCY ROOM

Abstract :

BACKGROUND: Diagnosis of pulmonary embolism is a challenge for the emergency physician, and the frequency of his non-diagnosis is an open and living problem not only in emergency contexts. However, there is a widespread opinion among clinicians that if the pulmonary embolism is more severe, it has caused organ damage, for example, is easier to recognise as a matter of urgency, and therefore it is easier to adhere to proper clinical practice.

AIM: Evaluate and compare the correctness of clinical management of patients who have arrived in the ER for symptoms that would make them diagnose in an emergency regimen of pulmonary embolism by comparing those who presented organ damage due to it with those who did not present it.

METHODS: observational monocentric retrospective study, on a group of patients that includes all those who have been referred to our emergency room consecutively and who have received acute diagnosis of pulmonary embolism. (01/01/2016 - 12/31/2018). We then analysed the adherence to the guidelines guides in the three key decision-making points: 1 The correct application of the decision-making scores examined, which will classify the patient at low, intermediate or high risk of having pulmonary embolism carried out by calculating wells and Geneva scores simplified; 2 Proper administration of therapy from the emergency room according to the guidelines; 3 Possible observation in an area of medium intensity with close monitoring for the subpopulation of patients with feedback of both right ventricle dilation and positivity of myocardial enzymes (considered to be at high risk of shock and short-term mortality).

An experienced radiologist has reviewed CSTs and identified organ damage such as right heart chamber dilation, pulmonary artery dilation and presence of pulmonary infarment.

RESULTS: 113 patients were enrolled, 50 of whom had organ damage and 63 were without organ damage. The former had a median age of 67, the latter 68 years. The group of patients with organ damage showed a minimal female prevalence (53%) patients with peripheral embolism (52%).

As regards decision-making scores, there was no greater increase in patients in either group. In particular, in patients with organ damage, adherence to the Wells score was 44%; Geneva score of 54%; Years score by 58%. In patients without Wells score adherence it was 59%; Geneva score by 50%; Years score by 55%. With regard to adherence to treatment guidelines, the two groups were found to be equivalent (64% with damage; 67% without). No difference even with regard to the adherence to the execution of monitoring in the high risk of shock class in the two symptomatic groups (70% approximately).

CONCLUSION: The results show that the presence of organ damage does not increase the adherence to compliance of the patient with pulmonary embolism adherence to the most correct management of the patient therefore does not depend on its severity.

#22205 : IMPACT OF THE TIPICITY OR ATIPICITY OF THE PULMONARY EMBOLISM ON ADHERENCE AT GUIDELINES AND APPROPRIATENESS OF PATIENT'S MANAGEMENT. EMERGENCY DEPARTMENT EXPERIENCE**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), Michele Pagani (4), FRANCESCO Mojoli (4), Silvia Mongodi (4), Massimiliano Lava (5), FEDERICA MANZONI (6), Paolo Maggioni (5), Viola Novelli (7), Alba Muzzi (8), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: CLINICAL TIPICITY OR ATIPICITY OF THE PULMONARY EMBOLISM ; ADHERENCE AT GUIDELINES ; EMERGENCY DEPARTMENT ; ACUTE PULMONARY EMBOLISM

Abstract :

BACKGROUND: Diagnosis of pulmonary embolism is a challenge for the emergency physician, also due to the varied symptoms. Symptoms of pulmonary embolism are in fact extremely nonspecific. Most of the time, however, there is at least one of the most frequent symptoms, the so-called typical symptoms: breathlessness, chest pain, signs/symptoms of deep vein thrombosis, syncope. In the event that none of these symptoms, alone or in combination, are present, the patient will present atypical symptoms.

AIM: Compare the correctness of management (understood as adherence to current European guidelines) of the population suffering from acute pulmonary embolism between those who have characteristic symptoms and those who have atypical symptoms.

Methods: observational monocentric retrospective study, on a group of patients that includes all those who have been referred to our emergency room consecutively and who have received acute diagnosis of pulmonary embolism. The enrollment started on 01/01/2016 and ended on 12/31/2018.

We then analysed adherence to the guidelines in three decision-making points: 1 The correct application of the decision-making scores examined, which will classify the patient at low, intermediate or high risk of having pulmonary embolism carried out by the calculation of Wells and Geneva simplified scores; 2 Proper administration of therapy from the emergency room according to the guidelines; 3 Possible observation in an area of medium intensity with close monitoring for the subpopulation of patients with feedback of both right ventricle dilation and positivity of myocardial enzymes (considered to be at high risk of shock and short-term mortality).

Results: 113 patients were enrolled, 85 of whom had typical symptoms. These had a median age of 73 years, slightly more advanced than patients with atypical symptoms (65 years). The group of typical patients showed a slight female prevalence (55%) atypical a mild male prevalence (53%). As regards decision-making scores, there was no slightly greater adherence in patients with atypical symptoms. Particularly in typical Wells score membership was 47%; Geneva score of 54%; Years score by 50%. In

patients with atypical symptoms, adherence to the Wells score was 48%; Geneva score of 65%; Years score by 72%. With regard to adherence to treatment indications according to the guidelines, the two groups were found to be equivalent (66% typical; 64% atypical). There is no difference in the adherence to the execution of monitoring in the high risk of shock class in the two symptomatic groups.

Conclusions: The results show that the subpopulation of patients with atypical symptoms is by no means negligible (26%). However, there is no difference between the two symptomatic groups in terms of adherence to the guidelines.

#22206 : ACUTE PULMONARY EMBOLISM: ARTERIAL BLOOD GAS TEST'S ROLE IN IDENTIFYING POPULATION WITH MASSIVE AND SUB-MASSIVE PULMONARY EMBOLISM**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), Paolo Maggioni (4), Viola Novelli (5), MIRKO BELLIATO (6), Michele Pagani (7), FEDERICA MANZONI (8), Massimiliano Lava (4), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (6)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ACUTE PULMONARY EMBOLISM ; ARTERIAL BLOOD GAS TEST; MASSIVE AND SUB-MASSIVE PULMONARY EMBOLISM

Abstract :

Purpose of the study: to evaluate if ABG gas exchange's impairment could detect subpopulations of patients presenting massive or sub-massive pulmonary embolism (PE), organ damage or with high-risk of short-term mortality or shock, therefore patients presenting right ventricular enlargement and myocardial enzyme elevation. We eventually examined if the latters showed a correlaton with worse outcomes, defined as greater sPESI index and the need of ICU hospitalization.

Methods: observational monocentric study, we enrolled all the patients who received acute PE diagnosis in the period going from 01/01/2016 to 31/12/2018. We analyzed the following ABG measures: pH, pO₂, pCO₂. An expert radiologist examined CT-scans and identified organ damage as dilation of right heart chambers, pulmonary artery dilation and pulmonary infarction.

Results: In the electronic database, we enrolled 113 patients identified as eligible to participate in the study, as they matched previously listed criteria. Patients' mean age is 68 years, ranging from 19 to 98. Female represent 53,10% of the total. pH showed no utility in detecting the examined subpopulations, neither was found more impaired in the subpopulations with worse outcomes.

pO₂ measure showed to be more easily impaired in patients with organ damage ($p = 0,041$) and in patients with right ventricular enlargement myocardial enzyme elevation, therefore the patients with high-risk of short-term mortality or shock ($p = 0,041$). pCO₂ measure didn't show utility in detecting the examined populations and wasn't more impaired in the populations with the worse outcomes considered. Although it showed to be more impaired in typical simptoms presentation. ($p = 0,005$).

Conclusions: ABG's low values od pO₂ may help to detect the subpopulation considered at high-risk of short-term mortality or shock, therefore presenting right ventricular dilation and myocardial enzyme elevation and therefore needing close monitoring and eventual thrombolysis at the worsening of clinical features.

#22208 : DANGER OF ATYPICAL SYMPTOMS IN PULMONARY EMBOLISM

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), Paolo Maggioni (4), MIRKO BELLIATO (5), FRANCESCO Mojoli (6), Silvia Mongodi (6), Michele Pagani (6), Elisa Bonadeo (7), Maria Antonietta Bressan (8), GIORGIO ANTONIO IOTTI (5)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ATYPICAL SYMPTOMS ; ACUTE PULMONARY EMBOLISM ; EMERGENCY DEPARTMENT

Abstract :

Premises: pulmonary embolism (PE) diagnosis represents a challenge for emergency physician, by reason of its variegated symptomatology. PE symptoms are, in fact, extremely aspecific. Most of the times, by the way, it presents with at least one between the more frequent signs, also referred to as typical signs, as dyspnea, chest pain, signs/symptoms of deep vein thrombosis, syncope. In case no one of these symptoms, alone or in combination, is present, the patient presents atypical symptomatology.

Purpose of the study: to type and compare, in the acute PE affected population, patients who present typical and atypical symptoms. This was done from epidemiologic/demographic point of view; but also from comparing biochemical and ABG test results; severity of clinical picture (defined as organ damage or massive pulmonary embolism); outcomes (defined as correlation with mortality-index sPESI, length of hospitalization, need of ICU hospitalization).

Methods: monocentric retrospective observational study, on a group of patients that include all the people accessed to our ED, where they received acute PE diagnosis. Enrolment started on 01/01/2016 and finished on 31/12/2018.

We collected data from medical history, physical examination, lab tests, imaging; we calculated characteristic scores from the diagnostic/therapeutic algorithm, both regarding PE risk (Wells, Geneva and Years), and the 30-day mortality risk presentation (sPESI).

Results: we enrolled 113 patients, of which 85 with typical symptoms. The latter presented with median age of 73 years, slightly higher than the patients with atypical symptoms (65 years). The subgroup of typical patients presented a slight female prevalence (55%), whilst the atypical subgroup showed a mild male prevalence (53%). Concerning vital signs, we see that patients with atypical symptoms more often present desaturation <90% (18% vs 11%) and tachycardia, defined as HR >110 bpm (18% vs 10%). Regarding lab test results, patients with typical symptoms present more frequently raising in D-Dimer > 4000 (28% vs 5%). Regarding PE severity, patients with typical symptoms presented a slight raising in the prevalence of massive PE (53%), compared to the ones with atypical symptoms (44%) and in the presence of organ damage (defined as right ventricular dilation, pulmonary artery dilation, pulmonar

infarction-15% against 5%). Concerning the outcomes, patients with atypical symptoms present a slight raising in the prevalence of higher short-term mortality risk, calculated with sPESI score (55% vs 50%), whilst there is no difference between the two groups for length of hospitalisation or need of ICU hospitalization.

Conclusions: results highlight how the subpopulation of atypical symptoms patients is not negligible (26%), but it's hard to be diagnosed not only for the atypical symptomatology, but also for the poor impairments at the lab tests. They don't differ, instead, in a statistically significant way, for the severity stage of PE and its outcomes.

#22209 : THE ADHERENCE TO INTERNATIONAL GUIDELINES IN PATIENT WITH PULMONARY EMBOLISM DEPEND ON THE FLOW FOLLOWED BY THE PATIENT**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Silvia Mongodi (3), FRANCESCO Mojoli (3), Sarah Macedonio (4), Paolo Maggioni (5), Massimiliano Lava (5), FEDERICA MANZONI (6), Sara Cutti (7), Elisa Bonadeo (7), MIRKO BELLIATO (8), Michele Pagani (3), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ADHERENCE TO INTERNATIONAL GUIDELINES ; ACUTE PULMONARY EMBOLISM ;EMERGENCY DEPARTMENT

Abstract :

Purpose: to study the adherence to the european guidelines for pulmonary embolism (PE) during the whole patient's flow in the ED.

Unlike some other studies about the adherence to various guidelines, we analyzed the factors who could influence the management, on any level, considering any decision-making in the patient's ED path. In particular, we evaluated if the adherence could depend on various forms or clinical presentation of the patient more than on the patient's flow and the appropriateness of the ED path. More specifically, if the flow was addressed towards the low-intensity-care area or towards the medium-intensity-care area, and if it considered or not the passage in short-intensive-observation area with a dedicated medical team.

Methods: monocentric, retrospective, observational study, on a group of patients including all people accessed to our ED, where they received diagnosis of PE. Enrollement started on 01/01/2016 and finished on 31/12/2018. We then analyzed guidelines adherence in three decision-making turning-points: 1 Correct application of decisional scores examined, which classify the patient in low, intermediate or high risk of PE, calculated with Wells and simplified Geneva score; 2 Correct therapy administration since the ED as suggested by the guidelines; 3 The eventual observation in the medium-intensity care area with close monitoring for the subpopulation of patients with finding of right ventricular dilation or myocardial enzymes impairment (considered at high risk of short-term shock and mortality).

Results: we enrolled 113 patients, of which 68 were located in the medium-intensity-care area and 45 in the low-intensity-care area. 47 patients were then addressed to the short-term-intensive-observation area.

In none of the clinical forms we considered (massive/peripheral PE; PE with/without organ damage; typical/atypical presentation symptoms), we found a difference concerning patient's management, leading to a similar picture in any case.

Instead, adherence to the guidelines and therefore to a more correct management of the patient increased

at every decision-making turning-point if the patient was in the medium-intensity-care area, and it was even higher if the patient was addressed to the short-intensive-observation area. Patients who were immediately addressed to the medium-intensity-care area and after to the short-intensive-observation area had a global adherence of 90%, compared with 70% of the patients who followed other flows.

Conclusions: results show how adherence to the guidelines does not depend on patient's clinical presentation, but on the correct flow-design of the patients in the ED.

#22210 : DOES PULMONARY EMBOLISM SEVERITY, DEFINED AS MASSIVE PE COMPARED TO PERIPHERAL PE, AFFECT GUIDELINES' ADHERENCE AND CORRECT PATIENT'S CLINICAL MANAGEMENT?

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Paolo Maggioni (3), Sarah Macedonio (4), MIRKO BELLIATO (5), FRANCESCO Mojoli (6), Silvia Mongodi (6), Michele Pagani (6), FEDERICA MANZONI (7), Maria Antonietta Bressan (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ACUTE PULMONARY EMBOLISM ; MASSIVE PULMONARY EMBOLISM ; GUIDELINES' ADHERENCE.

Abstract :

Premis: PE diagnosis represents a challenge for the emergency physician, and the rate of missed diagnosis is an active issue not only in the emergency setting. It is current opinion between physician that when the PE is more severe, it is also easier to be diagnosed in an emergency setting, and therefore it is easier to be adherent to correct clinical practice.

Purpose of the study: to evaluate and compare accuracy of clinical management (defined as adherence to current european guidelines) of patients who accessed in our ED with symptoms that made it possible to make an urgent diagnosis of PE, by comparing patients who presented massive PE, with the ones presenting a peripheral form.

Methods: monocentric, retrospective, observational study, on a group of patients including all the people who accessed in our ED, where they received acute diagnosis of PE. Enrolment started on 01/01/2016 and finished on 31/12/2018. We then analyzed guidelines adherence. We then analyzed guidelines adherence in three decision-making turning-points: 1 Correct applicarion of decisional scores examined, which classify the patient in low, intermediate or high risk of PE, calculated with Wells and simplified Geneva score; 2 Correct therapy administration since the ED as suggested by the guidelines; 3 The eventual observation in the medium-intensity care area with close monitoring for the subpopulation of patients with finding of right ventricular dilation or myocardial enzymes impairment (considered at high risk of short-term shock and mortality). An expert radiology revised the CT-scans to differentiate massive from peripheral form of PE.

Results: we enrolled 114 patients, of which 61 presented massive PE and 52 with peripherale PE. The first ones presented mean age of 73 years, the second ones 70 years. The group of patients with massive PE showed a female prevalennce (55%), similar to the patients with peripheral PE (51%). Regarding decisional scores we highlight a substantive equality of adherence in the patients of the two groups. In particular, patients with massive PE, adherence to Wells score was 59%; to Geneve score it was 48%; to Years score it was 56%. In the patients with peripheral PE, adherence to Wells score was 56%; to Geneve score it was 48%; to Years score it was 57%. Also regarding adherence to therapy administration based on the guidelines, the two groups have proved to be similar (massive 68%; peripheral 64%). We found no difference either regarding adherence to close monitoring performing in the class with high-risk of shock in

the two symptomatologic groups.

Conclusions: the results highlight how the massive presentation of PE dont influence the physician's adherence to the guidelines. Therefore, the correct management of the patient does not dipend on his severity.

#22211 : SHOCK INDICES BASED ON VITAL SIGNS AND ANAGRAPHIC DATA IN ACUTE PULMONARY EMBOLISM: MARKERS FOR GREATER SEVERITY AND WORSE OUTCOMES.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Paolo Maggioni (3), Sarah Macedonio (4), Massimiliano Lava (3), FEDERICA MANZONI (5), Maria Antonietta Bressan (6)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Abstract :

Purpose of the study: to evaluate the predictability of shock indices based on vital signs and anagraphic data and the severity of the pulmonary embolism (PE), defined as the presence of massive PE, raising in the short-term mortality score (sPESI) and the need of ICU hospitalization.

Methods: observational monocentric study, on a group of patients that includes all the people who accessed our ED, where they received the diagnosis of PE. Enrolment started 01/01/2016 and finished on 31/12/2018. We collected data from medical history, physical examination, laboratory tests and imaging; we calculated 30-day mortality risk score (sPESI).

Results: in the electronic database, we enrolled 113 patients identified as eligible to participate in the study, as they matched previously listed criteria. Patients' mean age is 68 years, ranging from 19 to 98. Male represented the 46,9% of the total. We considered the following shock indices: shock index (SI), shock index modified (MSI) e age-shock index (age-SI). They are, in mean, usually higher in patients who present massive PE; in fact, we found a statistically significant correlation between their impairment and the presence of massive PE ($p = 0,0036$ SI; $p = 0,0037$ MSI). An even stronger correlation was found with the age-SI, ($p = 0,0006$). Regarding the need of ICU hospitalization, we found significant markers in impaired age-SI ($p = 0,010$) and impaired MSI ($p = 0,027$). Between these two indices, age-SI also shows a correlation with mortality score sPESI, with $p = 0,042$; the MSI doesn't ($p = 0,19$). SI does not show statistically significant correlation with mortality score sPESI ($p = 0,221$), and does not reach significance either with the need of ICU hospitalization. intensiva ($p = 0,065$).

Conclusions: Shock indices are easily and early available, since they are based on patients' vital signs and anagraphic data. They allow immediatly, once there is diagnostic hypothesis of PE, to identify patients in more severe condition, and therefore presenting massive PE, higher short-term mortality risk and need of ICU hospitalisation.

#22216 : urinary tract infection IN THE EMERGENCY ROOM. GLOBAL ANALYSIS OF THE PERFORMANCE INDICES OF TRIAGE AND SYSTEM IN AN ORGANIZED EMERGENCY DEPARTMENT FOR CARE INTENSITY AREAS

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Alba Muzzi (3), Viola Novelli (4), Sara Cutti (5), Elisa Bonadeo (5), Leandro Gentile (5), Antonello Malfitano (6), Giuseppina Grugnetti (7), Maria Antonietta Bressan (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: urinary tract infection ; IN THE EMERGENCY ROOM; TRIAGE ; EMERGENCY DEPARTMENT

Abstract :

AIM: Describe and type the population who enters our emergency room for signs or symptoms that then make you diagnose urinary tract infection at the top. We analyzed the priority of the medical examination, the access methods, the waiting times, the process, the stay in the emergency room. We then analysed the code of medical severity at discharge, outcomes and indents. We have retrospectively analyzed all affected patients who have been diagnosed with urinary tract infection in our emergency room in 10 consecutive months (January 1, 2018-October 31, 2018), after the review of triage grids with regard to accesses for fever.

Methods and results: 664 patients with mild female prevalence (51%). The median age was 55 years. 64% came spontaneously, 35% accompanied by 118. 69% received low priority codes for medical examination and allocation at low-intensity care, 31% received a high priority code for medical examination, 22% of which were attributed to the low-intensity wing of care and 7% to the medium-high-intensity wing of the care. In more detail with regard to the color codes of priority to the medical examination we find that 0% of patients have been assigned a white code of priority to the medical examination, 69% are given a green code of priority to medical examination, in 22% of cases a low-intensity care code, in 6% of cases a yellow code and well in 1% a red code. The average waiting time for the medical examination among all arrogate patients was 94 minutes, with median of 68 minutes. The average process time was 3 hours and 28 minutes, with a median of 2 hours and 16 minutes. The LOS was 5 hours and 3 minutes average with a median of 3 hours and 45 minutes. The code of medical severity at discharge was white in 5% of cases, green in 77% of cases, 10% yellow and 1% of cases red. Only 5% had limited access to short intensive observation for clinical stabilisation for an average of 10 hours.

75% of patients were discharged, 24% were hospitalized and only 1.1% were transferred to a lower-intensity facility.

Conclusions: patients who arrive in the emergency room for urinary tract infection are young, self-presented patients, largely in need of a low intensity of care, easily canbeaded in a vertical flow in the low intensity of care. A care-intensive care-intensive organization with a dedicated team allowed the allocation immediately to the most correct care area and excellent waiting and process times.

#22217 : PNEUMONIA IN THE EMERGENCY ROOM. GLOBAL ANALYSIS OF THE PERFORMANCE INDICES OF TRIAGE AND SYSTEM IN AN EMERGENCY DEPARTMENT ORGANIZED FOR CARE INTENSITY AREAS.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Alba Muzzi (3), Sara Cutti (4), Viola Novelli (5), Elisa Bonadeo (4), Antonello Malfitano (6), Leandro Gentile (4), Maria Antonietta Bressan (7)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: PNEUMONIA ; EMERGENCY ROOM ; TRIAGE ; EMERGENCY DEPARTMENT

Abstract :

AIMS: Describe and type the population who enters our emergency room for signs or symptoms that then make you diagnose pneumonia at the top. We analyzed the priority of the medical examination, the access methods, the waiting times, the process, the stay in the emergency room. We then analysed the code of medical severity at discharge, outcomes and indents. We have retrospectively analyzed all affected patients who have been diagnosed with pneumonia in our emergency room in 10 consecutive months (January 1, 2018-October 31, 2018), after the review of triage with regard to accesses for fever.

Methods and results: 565 patients with mild male prevalence (55%). The median age was 79 years. 30% came spontaneously, 66% accompanied by 118. 39% received low priority codes for medical examination and allocation at the low intensity of care, 61% received a high priority code for medical examination, 6% were attributed to the low-intensity wing of care and the remaining 94% to the wing. medium-high intensity of care. In more detail with regard to the color codes of priority to the medical examination we find that only 1% of patients have been given a white code of priority to the medical examination, 38% are given a green code of priority to medical examination, in 6% of patients cases a low-intensity care code, in 49% of cases a yellow code and in 5% a red code. The average waiting time for the medical examination among all arrogate patients was 72 minutes, with median of 46 minutes. The average process time was 9 hours and 30 minutes, with a median of 5 hours and 32 minutes. The LOS was 10 hours and 43 minutes average with a median of 7 hours and 02 minutes. The code of medical severity at discharge was white in 0% of cases, green in 57% of cases, 40% yellow and 3% of cases red. Forty-eight percent needed access to short-intensive observation to stabilise the clinical picture for an average time of 14 hours.

61% of patients were admitted, 5% transferred to a lower-intensity facility and the rest discharged. In the case of hospitalwards, 51% received a hospitalization in the emergency room, an act necessary to perform certain services, and were then transferred to a medical environment or discharged after stabilization. Intensive care and medium-intensity care wards were 2% and only 1.1% in surgical wards (in support due to lack of medical beds). Analysis of emergency room returns showed that 4.6% had a return at 7 days; 6.3% submitted a return to 14 days; 10.6% submitted a return to 30 days; 12.9% submitted a return at 60 days.

Conclusions: patients arriving in the emergency room for pneumonia are elderly, complex, largely

requiring a medium-to-high intensity of care for aerosol administration, oxygen therapy and cadenced therapies, multi-parameter and saturate monitoring. A care-intensive care-intensive organization with a dedicated team allowed the allocation immediately to the most correct care area and excellent waiting and process times.

#22218 : SEPSIS IN THE EMERGENCY ROOM. GLOBAL ANALYSIS OF THE PERFORMANCE INDICES OF TRIAGE AND SYSTEM IN AN EMERGENCY DEPARTMENT ORGANIZED FOR CARE INTENSITY AREAS**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Alba Muzzi (3), Sara Cutti (4), Elisa Bonadeo (4), Leandro Gentile (4), Giuseppina Grugnetti (5), Viola Novelli (6), Maria Antonietta Bressan (7)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
6. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: SEPSIS ; EMERGENCY ROOM ; TRIAGE

Abstract :

aims: Describe and type the population who enters our emergency room for signs or symptoms that then make you diagnose sepsis at the main point. We analyzed the priority of the medical examination, the access methods, the waiting times, the process, the length of stay in the emergency room. We then analysed the code of medical severity at discharge, outcomes and returns. We have retrospectively analyzed all affected patients who have been diagnosed with pneumonia in our emergency room in 10 consecutive months (January 1, 2018-October 31, 2018), after the review of the company's PDTA of sepsis and triage grids sepsis and fever access.

Methods and results: 336 patients with mild male prevalence (56%). The median age was 79 years. Only 25% arrived spontaneously, 75% accompanied by 118. 23% received low priority codes for medical examination and allocation at the low intensity of care, 77% received a high priority code for medical examination, 21% were attributed to the low-intensity wing of care and the remaining 79% to the wing. medium-high intensity of care. More specifically regarding the color codes of priority to the medical examination we find that 0.3% of patients have been assigned a white code of priority to the medical examination, 23% are given a green code of priority to medical examination, in 21% of cases a low-intensity care code, in 37% of cases a yellow code and well in 8% a red code. The average waiting time for the medical examination among all the arrogated patients was 56 minutes, with median of 31 minutes. The average process time was 5 hours and 3 minutes, with a median of 2 hours and 24 minutes. The LOS was 5 hours and 59 minutes average with a median of 3 hours and 10 minutes. The code of medical severity at discharge was white in 0% of cases, green in 17% of cases, 66% yellow and 7% of cases red. 20% had limited access to short intensive observation for clinical stabilisation for an average time of 6 hours.

Almost all of the patients were admitted to hospital and only 1.1% were transferred to a less intensive care facility.

Conclusions: patients arriving in the emergency room for sepsis are elderly, severe and complex patients who largely require a medium-to-high intensity of care for drug delivery, multi-parameter monitoring and possible invasive maneuvering. A care-intensive care-intensive organization with a dedicated team allowed the allocation immediately to the most correct care area and excellent waiting and process times.

#22219 : ROLE OF AN HOLDING AREA AS AN INTENSIVE SHORT OBSERVATION (OBI) IN THE VARIOUS FLOWS OF PATIENTS WITH INFECTION DISEASE. ANALYSIS OF THE VARIOUS FLOWS ATTRIBUTED BY TRIAGE IN AN EMERGENCY DEPARTMENT ORGANIZED FOR THE INTENSITIES OF CARE.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Alba Muzzi (3), Viola Novelli (4), Sara Cutti (5), Elisa Bonadeo (5), Giuseppina Grugnetti (6), Leandro Gentile (5), Maria Antonietta Bressan (7)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
7. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: HOLDING AREA ; INFECTION DISEASE ; TRIAGE ; EMERGENCY DEPARTMENT

Abstract :

BACKGROUND: fever accesses account for about 4-5% of emergency room access. Inside them can nest cases at risk of aggravation, shock and death, especially for septic patients and with involvement of the respiratory system. The intensive short observation (OBI) can represent within an emergency room in the Italian reality a holding area suitable for stabilization and diagnostic completion for hospitalizations with appropriateness and resignation safely. The pathological processes that can lead to fever are manifold. In an emergency room divided by the intensity of care, the OBI must have a compliance of reception and treatment appropriate to the patient's acuity and its need for high intensity of care.

AIMS: Describe and type the population who, having had access to the emergency room for infectious causes determinant fever, have been in their process attributed and allocated to the OBI. We have retrospectively analyzed patients who have been diagnosed with infectious disease in our emergency room in 10 consecutive months (January 1, 2018-October 31, 2018).

METHODS AND RESULTS: 1636 patients were enrolled, of which 368 (22%) have completed their stabilization/diagnostic process in OBI. The average age of patients allocated to OBI was 79 years. Of patients with a white code of priority for medical examination and the need for low-intensity care, only 5% needed OBI for a stabilization with a median time of the same 11 hours. Of patients with a green code of priority for medical examination and the need for low-intensity care, only 11.9% needed OBI for stabilization with a median time of the same 12 hours. Of patients with a yellow code of priority for medical examination but needing low care intensity only 8.36% needed OBI for stabilization with a median time of the same 12 hours. Among patients with a yellow medical examination priority code and medium-intensity need for care, 47% needed OBI for a stabilization with an average time of the same 10 hours. Among patients in shock/red code, 34% needed OBI for stabilization with an average time of the same 14 hours.

ConclusionS: It is clear that the allocation to the OBI is more related to the intensity of care that the patient needs than to the priority of the medical examination of the patient. Stabilization times remain overlapping depending on the pathology (all infectious) and not on the priority of the medical examination. Proper compliance of an OBI ensures the right stabilization time and adequate area of care intensity for all patients, both for those who have been directed by Triage towards a medium-high intensity of care, or for those or who have needed it at a later date either or for which perhaps the need for it was not recognized in Triage. The OBI can therefore play an important role in the continuation or therapeutic diagnostic redirection of patients who arrive in the emergency room for infectious causes and who need medium intensity of care.

#22221 : Analysis OF THE DIFFERENT DISTRIBUTION IN FLOWS OF PATIENTS AFFECTED BY INFECTIONE DISEASE. FROM TRIAGE AT THE END OF THE PROCESS Comparison OF THE LOW AND THE MEDIA AREA INTENSITY OF CARE.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Alba Muzzi (3), Elisa Bonadeo (4), Sara Cutti (4), Viola Novelli (5), Leandro Gentile (4), Maria Antonietta Bressan (6)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: INFECTIONE DISEASE ; TRIAGE ; emergency department

Abstract :

BACKGROUND: the emergency room of the IRCCS Polyclinic St. Matthew of Pavia is divided into areas of intensity of care. At triage therefore not only patients receive a priority code for the medical examination, but are also being inhaled into a stream of care (low-intensity or medium-intensity) that they begin to follow. Obviously if at the medical examination it is considered to change the flow of care this is possible by changing the area to which the patient has been assigned. As a result, therefore, for the same reason of access to Triage, such as the one we consider, namely fever, the patient is evaluated and on the basis of vital parameters, the risk factors taken into account by the Triage grids, is addressed in a care channel.

AIMS: Describe and type the various flows of patients who enter the emergency room for infectious causes determinant fever, in an emergency room divided into areas of intensity of care, with a 5-level triage and provided with short intensive observation. We have retrospectively analyzed patients who have been diagnosed with infectious disease in our emergency room in 10 consecutive months (January 1, 2018-October 31, 2018).

METHODS AND RESULTS: 1636 patients with minimal male prevalence (M 52%). 66% were allocated at the low intensity of care, 34% at the average high intensity of care. The average age of the first group was 59 years, the second was 82 years.

For the former the code of medical severity at discharge was medium low (green and white) in 65% and high (yellow and red) in 35%, for the second group it was medium low (green and white) in 30% of cases and high in 70%. In the first group, 40% were admitted, and 2% were transferred to hospitals with lower intensity of care. In the second group, 80% were admitted and 2% were transferred to hospitals with lower intensity of care. The first group is mainly patients with urinary tract infections, followed by patients with pneumonia (about 25%). The second group sees pneumonia patients as the most represented categories (over 60%) and septic patients (above 20%).

Conclusions: It is evident that the population that comes to the emergency room for infectious causes and is attributed to the average intensity of care is older, more rarer and composed mainly of pneumonia and septicemia. It is therefore important to keep in mind during the flu peaks and the winter period that will be the medium-intensity area of emergency room care to have the majority of the increased workload. Therefore, solutions must be put in place to avoid access blocking and outbound blocking.

#22222 : ROLE OF INTENSIVE BRIEF OBSERVATION (IBO) UNIT IN THE MANAGEMENT OF PATIENTS WITH ACUTE HEART FAILURE: REAL LIFE EXAMPLE.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Francesco Geraci (3), Chiara Gagliardone (4), Maria Antonietta Bressan (5)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
4. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: INTENSIVE BRIEF OBSERVATION (IBO) UNIT ; MANAGEMENT ; ACUTE HEART FAILUR ; REAL LIFE ; emergency department.

Abstract :

FOREWORD: Acute heart failure (AHF) is one of the main causes of hospitalization in western Countries; it represents around 1–2% of accesses in the Emergency Department, reaching more than 10% in patients over 70 years old. Among AHF patients, mortality and re-hospitalization is 40% at 1 year. Over the past decade, international databases [3–4–5] show that AHF mainly affects elderly patients and that men and women are equally affected.

PURPOSE: Analyze impact that Intensive Brief Observation Unit (IBO, an area dedicated to observe unstable patients and stabilize them supervised by a team of chosen and dedicated doctors) can have in management patients over 75 years affected by AHF, in terms of stabilization, hospitalization or discharge rate, transfer rate to centers of less intensive care and return rate at 7, 14 and 30 days.

RESULTS: We enrolled a total of 694 patients with more than 75 years who received diagnosis of AHF at our Emergency Department from January 1st to December 31st 2018. Of these, 54% were transferred to our IBO Unit for stabilization. There was no difference between IBO and no-IBO populations in terms of age (average 85y and median 84y in both groups) and sex (female 52–54%).

The IBO population seemed to be more complex and unstable as demonstrated by higher percentage among these patients of high admission color codes (yellow and red codes: IBO 81% vs no-IBO 71%), tachycardia (heart rate > 110 bpm: 12% vs 10%) and arterial hypertension (systolic blood pressure > 190 mmHg: 3% vs 2.6%; diastolic blood pressure > 120 mmHg: 3.2% vs 2.9%). Instead, patients with low cardiac output (systolic blood pressure < 100 mmHg) were equally distributed (approximately 10% in both groups).

In IBO Unit stabilization rate was higher as indicated by reduction of color code upon discharge (green code: IBO 44% vs no-IBO 30%). Therefore, patients stabilized in IBO had a higher transfer rate to centers of less intensive care (10% vs 5%) and a lower return rate at 7, 14 and 30 days (IBO patients: respectively 2%, 5%, 13%; no-IBO patients: respectively 3%, 7%, 15%).

CONCLUSIONS: As our results demonstrated, the Intensive Brief Observation Unit, as an area dedicated to observation and stabilization of critical patients, has gradually allowed improving in management patients with acute

heart failure in Emergency Department, with particular attention to elderly and more fragile patients. Indeed, IBO Unit has the aim of correctly assess patients before potential hospitalization, instead hospitalize them for making diagnosis and treatment. This results in better management of patients with AHF, reduce their hospitalization rate and, consequently, optimize healthcare resources.

#22233 : WAITING TIME AND FIBRINOLYSIS IN THE ELDERLY WITH ACUTE STROKE IN THE EMERGENCY ROOM IN REAL LIFE: THE TIME MACHINE**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), ALESSANDRA PERSICO (3), ANNA CAVALLIN (3), Francesco Geraci (4), Chiara Gagliardone (5), Elena Novara (3), Francesca Grulli (6), Alba Muzzi (7), Viola Novelli (8), Elisa Bonadeo (9), Leandro Gentile (9), Sara Cutti (9), Maria Antonietta Bressan (10), Alessandra Martignoni (3), Andrew Wimer (11)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
5. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
8. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
11. university of Pavia, university of Pavia, Pavia, Italy

Keywords: FIBRINOLYSIS ; ELDERLY ; ACUTE STROKE ; EMERGENCY ROOM ; REAL LIFE

Abstract :

Introduction: Stroke is one of the main causes of mortality and residual disability in the world, representing the first cause of disability in the elderly. Additionally, it is a time dependent pathology: early treatment can reduce mortality and remaining disability.

Objective: to analyze the waiting time, process of neurological evaluation and CT in a large cohort of elderly patients with acute stroke and treated with thrombolysis in our emergency for a consecutive year (May 2017-May 2018). In the end, we have analyzed the different distribution of waiting time according to the clinical presentation of symptoms. The clinical presentation of symptoms taken into consideration are : motor and sensory disorders, language deficit, atypical (comprehensive category of dizziness, confusion and syncope).

RESULTS: A total of 49 patients were enrolled in the study of the age of 75 or older diagnosed with acute stroke in our emergency room (May 2017 to May 2018) and treated with thrombolysis. These patients had an average age of 81.8 Y.O. with an equal distribution of gender (24 M, 25 F). This population of the study presented a high incidence of risk factors: 91% presented at least one risk factor, 57% of the population of the study had at least two risk factors and 32% had 3 or more. Less than 1% did not show any risk factors. The waiting time was a mean of 12 minutes with a median of 8 minutes; Color code assigning based on priority at the time of clinical evaluation was adequate in all cases with the assignment of either code yellow for stroke or code red. The mean wait was 2 hours and 54 minutes with a median waiting time of 2 hours and 40 minutes; The mean stay was 3 hours and 6 minutes with a median time of stay of 3 hours and 7 minutes. Median times of the neurological examinations were 31 minutes; those requiring CT scan (execution and reporting) with intracranial and extracranial circulation evaluation had a median of 1 hour and 32 minutes. We have therefore subdivided the population of patients treated with thrombolysis in clinical syndromes: patients with motor, sensory, language deficit and non-specific symptoms. 89% demonstrated motor symptoms, 26% sensory symptoms, 61% language deficit symptoms, 26% atypical symptoms. All of the patients were admitted to the stroke unit after an initial observation in the emergency room. The population that underwent thrombolysis was taking multiple medications at home. 83% was taking at least one prescription medication, 67% was taking at least 3, 48.98% was taking at least 5 , 16.4% at least 8. 36.7% was taking antiplatelet therapy and 20.5% taking anticoagulants.

Conclusion: The elderly population who underwent thrombolysis is represented by patients with many pathologies, at high cardiovascular risk and taking cardiovascular medications at home.

#22236 : RE-ENGINEERING OF THE DIAGNOSTIC TREATMENT PATHWAYS FOR A PATIENT WITH ACUTE STROKE: ANALYSIS OF THE ROLE OF THE EMERGENCY ROOM IN REAL LIFE AND THE IMPACT ON THE ELDERLY POPULATION.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresà (2), Alba Muzzi (3), Elena Novara (4), Francesca Grulli (5), Giuseppina Grugnetti (6), Sara Cutti (7), Andrew Wimer (8), Chiara Gagliardone (9), Francesco Geraci (10), Viola Novelli (11), Alessandra Martignoni (4), Maria Antonietta Bressan (12)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
4. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. emergency department, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
7. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. university of Pavia, university of Pavia, Pavia, Italy
9. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
11. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
12. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ACUTE STROKE ; EMERGENCY ROOM ; REAL LIFE ; ELDERLY POPULATION.

Abstract :

Introduction: Stroke is one of the main causes of mortality and persistent disability in the world, representing the first cause of disability among the elderly. Approximately 35% of stroke patients demonstrate persistent serious disability. Additionally, it is a time dependent pathology and this awareness has led to the reduction of global mortality for stroke of 20% between 1990 and 2010.

Objective: To analyze the impact on the elderly population of the re-engineering of the diagnostic-treatment pathways in stroke patients in the emergency room .

Results: Patients aged 75 or older were evaluated with a diagnosis of stroke at our emergency room in the first year (from May 2017 to May 2018) with a re-engineered diagnostic-treatment pathway for a total of 431 patients. These patients had a mean age of 74 Y.O. with a median age of 83.8 with a predominance for females (172 M, 258 F). This regards a population study of high complexity as also demonstrated by taking into consideration risk factors such as diabetes mellitus, age > 65 Y.O., arterial hypertension, smoking, previous incidence of stroke, ischemic cardiomyopathy, atheroma of supra-aortic vessels and atrial fibrillation, 63.7% of the population of the study presented at least two risk factors and 34.6% 3 or more. 90% needed to be admitted to the stroke unit. 49 patients were appropriate candidates for systemic or mechanical thrombolysis or both. The median waiting time was 23 minutes. The assignment of the emergency color code was adequate with 85% having priority code yellow or code red status. The mean visit was 5 hours and 7 minutes with a median of 3 hours and 21 minutes; mean stay was 5 hours and 20 minutes, 14.3% of patients exceeded 12 hours, 5.4% exceeded 20 hours and 1.9% exceeded 24 hours. All patients underwent imaging and over 50% of the candidates in the study underwent intracranial and extracranial circulation imaging with contrast. The median time for a neurological visit was 45 minutes from the ER physician with CT scan and reporting of 1 hour and 37 minutes after the medical visit.

Conclusions: It can be deduced from the diagnostic-treatment pathways of these patients is carried out mainly in the emergency room with the multidisciplinary collaboration between emergency room physicians, neurologists and interventional radiologists, leading to the stabilization of the patients. The re-engineering of this acute pathology has been made possible due to the cultural change in the past few

years which has brought many emergency room departments together with an ever-growing attention for the elderly leading to an outcome of multidisciplinary cooperation.

#22238 : Frequent Admitters from the Emergency Department over 10 years – An Analysis of Characteristics and Trends**Authors:**

FangJiao Jocelyn Gao (1), Sheng Yang Lim (1), Kasia Chen Xi Chua (1), Nan Liu (2), Feng Xie (2), Yu Zeng Shen (3), Eng Hock Marcus Ong (3)

1. , Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

2. Health Services Research Centre, Singapore Health Services, Singapore, Singapore

3. Department of Emergency Medicine, Singapore General Hospital, Singapore, Singapore

Keywords: Frequent admitters, emergency department

Abstract :**Introduction**

Most hospital admissions occur through the emergency department. In this study, patients who were admitted 3 or more times a year were defined as frequent admitters (FA). FA contributes to hospital overcrowding and are high-cost patients. Though small in number, FA are a potential strain on finite healthcare resources. Our study aimed to delineate the overall trend and patient subgroups of FA in a single tertiary hospital in Singapore over 10 years.

Methods

A retrospective study was conducted on all hospital admissions from the emergency department in a large tertiary hospital in Singapore, from 1st January 2008 to 31st December 2017. Data was extracted from the hospital's electronic health records. Univariate and multivariate logistic regression were performed using R software.

Results

There were 18253 unique FA over the 10 years studied. Majority only persist for a year (77.3%) before becoming non-FA. The number of unique FA is rising (1922 in year 2008 to 2792 in year 2017), contributing to an increasing number of non-unique admissions (7512 in year 2008 to 11183 in year 2017). The mean age of FA is also rising. Majority of the patients (>50%) were triaged into the Patient Acuity Category (PAC) 2 category. An admit on admit trend analysis was performed on recurrent FA (>1 years of FA). As the number of admits increased, the mean age of the FA fell. The proportion of males and Singaporeans also increased. Characteristics of single year FA vs recurrent FA included age (single year FA OR: 0.996, 95%CI: 0.995 – 0.998), nationality (Foreigner OR: 0.613, 95%CI: 0.525 – 0.713), race (Malay OR: 1.345, 95%CI: 1.248 – 1.45; Indian OR: 1.49, 95%CI: 1.374 – 1.615), shift timing (12am – 8am OR: 1.151, 95%CI: 1.064 – 1.246) and mortality (Dead OR: 0.34, 95%CI: 0.285 – 0.404). Characteristics of low recurrent FA (> 5 years of FA) included age (OR: 0.973, 95%CI: 0.969 – 0.978) and race (Malay OR: 1.851, 95%CI: 1.559 – 2.190; Indian OR: 1.434, 95%CI: 1.18 – 1.733).

Conclusion

FA are not a homogeneous group. This study establishes several demographic heterogeneities among the subgroups of FA and forms the basis for hypothesis generation. Further studies are required to delineate the individual factors behind the different subgroup of FA so as to assist the development of strategies to potentially divert repeat admitters from re-attending at the emergency department.

Trial Registration / Funding Information (only) :

Competing Interests: None Funding: None

#22239 : RISK FACTORS FOR ACUTE STROKE WITHIN AGING POPULATIONS: FRIENDS OR ENEMIE? ALIAS THE HATEFUL EIGHT**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), GIOVANNI RICEVUTI (1), ANNA CAVALLIN (3), Francesca Grulli (4), Elena Novara (3), ALESSANDRA PERSICO (3), FABIOSCIUTTI (5), MIRKO BELLIATO (5), Andrew Wimer (6), Francesco Geraci (7), Chiara Gagliardone (8), Maria Antonietta Bressan (9)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. emergency department, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. university of Pavia, university of Pavia, Pavia, Italy
7. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
8. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: RISK FACTORS ; ACUTE STROKE ;AGING POPULATIONS ; triage

Abstract :

Objective: To analyze the risk factors in a large cohort of patients who have been diagnosed with acute stroke in our emergency room. In particular we have analyzed the risk factors such as diabetes mellitus, arterial hypertension, smoking, previous stroke, ischemic cardiopathy, atheroma of supra-aortic vessels and atrial fibrillation in various patients over 75 years of age evaluated in our emergency room for a consecutive year (May 2017–May 2018). We have therefore divided the population according to the presentation of the following symptoms: motor, sensory, language deficit and atypical (dizziness, confusion and syncope).

Results: 430 patients were enrolled in the study. These patients presented the average age of 83.8 Y.O. with a predominance for the female sex (60% F). The general population evaluated demonstrated a high incidence of risk factors: over 91.3% presented at least one risk factor, 63.7% of the study population presented at least two risk factors, and 34.6% presented three or more. The most common risk factor represented was arterial hypertension, which was present in 73% of the cases. Following: Smoking in 5.1 %, previous stroke in 27.6%, ischemic cardiopathy in 23.8%, atheroma of supra-aortic vessels in 30%, atrial fibrillation in 25.5% and diabetes mellitus in 23.1%. 56.7% showed motor system symptoms, 15.7% sensory symptoms, 46.8% language deficit, 36.5% non-specific symptom. The 4 symptom based groups are results are superimposable for age, distribution of sex and outcome of the hospitalization. The symptom based group with motor disturbances, language deficit and non-specific have been substantially demonstrated to be superimposable for the number and distribution of risk factors. In particular: arterial hypertension 71–74% with a peak in 83% of patients with sensory symptoms; cigarette smoking in 5–6%, previous stroke in 23–27%, ischemic cardiopathy in 22–29%, atheroma of supra-aortic vessels in 29–33%, atrial fibrillation in 23–27% and diabetes mellitus in 15–20% with a peak in 26% in patients with atypical symptomatology.

Conclusions: It can be deduced from the careful analysis of the risk factors together with the collection of signs and symptoms that an improvement in early recognition can be brought to the attention to patients with acute neurological problems and as a consequence the entire diagnosis and treatment process in elderly patients can be facilitated when recent medical history can be correctly be collect.

#22252 : ACUTE STROKE AND THE DEATHLY HALLOWS: THE RISK FACTORS IN A LARGE COORTE OF ELDERLY PATIENTS UNDERGOING THROMBOLYSIS.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), ANNA CAVALLIN (3), Alessandra Martignoni (3), ALESSANDRA PERSICO (3), Alba Muzzi (4), MIRKO BELLIATO (5), FABIO SCIUTTI (5), ELVIS LAFE (6), Francesco Geraci (7), Chiara Gagliardone (8), Andrew Wimer (9), Viola Novelli (10), Maria Antonietta Bressan (11)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
5. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. NEURO RADIO DIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
8. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. university of Pavia, university of Pavia, Pavia, Italy
10. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
11. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ACUTE STROKE ; RISK FACTORS ; THROMBOLYSIS ; elderly

Abstract :

AIM: Analyze among patients aged 75 and over who have acute stroke and have thrombolysis in our emergency room for a consecutive year (May 2017-May 2018) the distribution of risk factors in the global population and depending on the presentation symptomatic framework..

Methods: We conducted a prospective and monocentric observational study of all patients with acute stroke referred to the Department of Emergency and Acceptance of the IRCCS Polyclinic Foundation S. Matteo in Pavia from May 1, 2017 to May 1, 2018.

RESULTS: Elderly patients diagnosed with strokes in our emergency room (May 2017 to May 2018) and subjected to thrombolysis for a total of 49 patients were analyzed. These had an average age of 83.7 aa on equal distribution between the sexes (24 M, 25 F). This population has a high incidence of risk factors: 94% had at least one risk factor, 63% of the study population had at least two risk factors, and 30% had 3 or more. By far the most represented risk factor in this population is high blood pressure in 73.5% of cases. The prevalence of atherosclerosis superortic trunks present in 32.6% of patients, ischemic heart disease 26.5%, atrial fibrillation 26.5% and diabetes mellitus 20.4% follow with substantially overlapping prevalence. with slightly lower percentage of ictal disease 22.4%; while cigarette smoking habit has a lower incidence in this population (4%). We then divided the population of thrombolysis patients into clinical syndromes: patients with motor, sensory, language and nonspecific symptoms. 85% had motor symptoms, 30% sensory symptoms, 61% speech disorder, 28% atypical symptoms. The 4 symptomatic groups were found to be overlapping by age, sex distribution, and hospitalization outcome. The four symptomatic groups were shown to be substantially overlapping in the number and distribution of risk factors with regard to high blood pressure 73-77%; cigarette smoke 4-7%; atherosclerosis superortic trunks 20-29%; previous ischemic heart disease (20-29%) and diabetes mellitus 16-23%. Differently, previous ictal disease is less represented in patients with sensory symptoms (7%) compared to other subgroups (20-23%), atrial fibrillation is less represented in the subgroup with atypical symptoms, representing 15% (atypical symptoms) respectively, compared to 23-29% in the other subgroups.

Conclusions: it is clear that in the subpopulation of elderly patients who are candidates for thrombolysis, high blood pressure is the widely represented risk factor, while cigarette smoking is poorly represented. Particular attention should be given to all the other risk factors under consideration. Patients with atypical symptomatic cadres, on the other hand, have a lower prevalence of FA, suggesting that in these cases the rate of heart disease pathogenic stroke is reduced.

#22253 : TOC TOC: WHO IS IT? ELDERLY WITH ACUTE STROKE KNOCKS ON THE DOOR OF THE EMERGENCY ROOM. THE CHARACTERIZATION OF THE ELDERLY POPULATION WITH ACUTE STROKE IN REAL LIFE

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), ANNA CAVALLIN (3), ALESSANDRA PERSICO (3), Alba Muzzi (4), Elena Novara (3), Giuseppina Grugnetti (5), Francesca Grulli (6), GIOVANNI RICEVUTI (1), Andrew Wimer (7), Chiara Gagliardone (8), Francesco Geraci (9), MIRKO BELLIATO (10), Maria Antonietta Bressan (11)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
5. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
6. emergency department, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. university of Pavia, university of Pavia, Pavia, Italy
8. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
10. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
11. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: ELDERLY ; ACUTE STROKE ; EMERGENCY ROOM ; REAL LIFE

Abstract :

PREMISE: Stroke is one of the leading causes of mortality and residual disability worldwide, representing the leading cause of disability in the elderly. Approximately 35% of patients with severe disability residual stroke. Prevalence has increased progressively over the past 25 years, doubling between 1990 and 2010, and increases as we age. It is also a time-dependent pathology: because of this it is necessary to type the patient in its hyperacute phase, that is, at the door of the emergency room

AIM: elderly patient (aged 75 and over) with hyperacute cerebrie stroke in the emergency room. Provide a detailed photograph of the patient who shows up in the emergency room for acute stroke in a HUB center for stroke in Italy.

Methods: We conducted a prospective and monocentric observational study of all patients with acute stroke referred to the Department of Emergency and Acceptance of the IRCCS Polyclinic Foundation S. Matteo in Pavia from May 1, 2017 to May 1, 2018.

RESULTS: Patients who received a diagnosis of stroke in our er in the first year (May 2017 to May 2018) were analyzed to reengineer the route, for a total of 430 patients. These had an average age of 83 aa, with prevalence of the female sex (172 M, 278 F). 75% of patients are accompanied by 118 and only 20% arrive with spontaneous presentation, a framework that is mirrored by general access. 85% of patients are given a priority code for high visit with a yellow or red code. More than 90% needed hospitalization. 77% were admitted to our DEA and 14% transferred to a low-intensity neurological institution. 75% of patients had high process-term severity code (yellow 71%, red 4%). 52 patients were proven to be candidates for thrombolysis, systemic or mechanical or both. Looking at risk factors such as diabetes mellitus, high blood pressure, cigarette smoking habit, previous ictal disease, ischemic heart disease, superortic athermic atherosclerosis and atrial fibrillation is seen as 64% of the study population had at least two risk factors, and 35% 3 or more. Only 8% of patients had mutated history. Only 9% did not take drugs at home. The most represented drugs were antihypertensive, antidiabetic, anticoagulants, polypharmacy, beta blockers, oral antidiabetics, PPPs, antidepressants. 41% were already in anti-aggregating trp and 16% were already anticoagulant trp. In the clinical presentation picture, 56% have motor disorders, 15% of sensory disorders, 46% speech disorders and 36% atypical disorders.

Conclusions: the elderly who report an acute stroke are a highly complex population as demonstrated by the high prevalence of risk factors and other concomitant pathologies, the high percentage of hospitalization, the complexity of home therapy and from the high percentage of high severity codes to the discharge. They have a high cardiovascular risk and home drug polytherapy. It is often already anti-aggregated or anticoagulated. It has high hospitalization rates and high severity color code.

#22257 : INVISIBLY CLOAK: RECOGNITION DELAY OF ATYPICAL STROKE SYMPTOMS IN PATIENTS WITH MORE THAN 75 YEARS

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), ANNA CAVALLIN (4), ALESSANDRA PERSICO (4), GIOVANNI RICEVUTI (1), Chiara Gagliardone (5), Andrew Wimer (6), Francesco Geraci (7), Maria Antonietta Bressan (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. , IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. university of Pavia, university of Pavia, Pavia, Italy
7. ASST Pavia AAT 118 Pavia, ASST Pavia AAT 118 Pavia, Pavia, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: stroke ; ATYPICAL STROKE SYMPTOMS ; ELDERLY

Abstract :

FOREWORD: Stroke is one of the main causes worldwide of mortality and residual disability (about 35% of stroke patients remain with severe impairment), representing the leading cause of disability in elderly people. Over the past 25 years, since 1990 to 2010, prevalence of stroke has gradually raised in a directly proportional way to increasing age. Although it is a time-dependent disease, its early detection can sometimes be insidious, leading to delays in assistance and therapy.

PURPOSE: According to different symptomatological spectrum at presentation, the purpose of this study is to analyze times needed for recognition (in terms of attribution of priority codes to medical examination and waiting time) and management of patients over 75 years affected by stroke evaluated in our Emergency Department. **Methods:** We conducted a prospective and monocentric observational study of all patients with acute stroke referred to the Department of Emergency and Acceptance of the IRCCS Polyclinic Foundation S. Matteo in Pavia from May 1, 2017 to May 1, 2018.

RESULTS: We enrolled a total of 430 patients with more than 75 years who received diagnosis of stroke at our Emergency Department from May 1st 2017 to May 1st 2018. The average age was 83.8y and women were in slight majority (female 60%). At presentation, symptomatological spectrum was so divided: 56.7% (242 patients, pt) motor symptoms, 15.7% (67 pt) sensory symptoms, 46.8% (200 pt) speech disorder and 36.5% (156 pt) atypical symptoms (including dizziness, confusion and syncope). The four groups appeared to be superimposable by age, gender distribution, number of risk factors and hospitalization outcome. While the first three groups with typical symptoms accurately presented a high priority code for medical examination (about 90% had yellow code or higher), only 74% of patients belonging to the fourth group (atypical symptoms) had a high priority code for medical examination. This resulted in different waiting times: average of 38 minutes (min) and median of 20 min for the first three categories, average of 55 min and median of 27 min for patients with atypical symptoms. This time delay in the fourth group was primarily dependent on recognition at door, while subsequent times (request for imaging, neurological consultation and process time) were normalized with respect to other three symptomatological categories after the medical examination. **CONCLUSIONS:** As our results demonstrated, patients presenting atypical symptoms of stroke were more difficult to recognize at door as neurological acuties, leading to increased waiting times. However, at medical examination these patients were rapidly recognized, thanks to multidisciplinary collaboration between Emergency Doctors, Neurologists and Interventional Radiologists, and there was no further delay in management and treatment times. Therefore, it's important to pay attention in order to identify risk factors that could allow earlier recognition at triage especially in patients presenting atypical symptoms.

#22272 : Visceral leishmaniosis in emergency department, a significant case report

Authors:

Andrea Piccioni (1), enrico torelli (2), mattia brigida (2), alessandra esperide (2), Federico Valletta (2), francesco franceschi (3)

1. , Policlinico Gemelli, ROMA, Italy

2. , Policlinico Gemelli, ROMA, Italy

3. Università Cattolica del Sacro Cuore – Rome (Italy), Policlinico Gemelli, ROMA, Italy

Keywords: Leishmania, fever, emergency department

Abstract :

Visceral leishmaniosis in emergency department, a significant case report.

Andrea Piccioni¹, Enrico Torelli², Mattia Brigida², Alessandra Esperide², Federico Valletta², Marcello Covino¹, Veronica Ojetti^{1,2}, Francesco Franceschi^{1,2}

¹ Fondazione Policlinico Gemelli, IRCCS - Department of Emergency Medicine - Rome (Italy)

² Università Cattolica del Sacro Cuore –Rome (Italy)

Keywords: Leishmania, fever, emergency department

Introduction

Visceral leishmaniasis is a parasitosis caused by protozoa *Leishmania infantum*, also called chagasi, or by *Leishmania donovani* and it is transmitted by phlebotomine sand flies.

These protozoa replicate in the reticuloendothelial system and clinical manifestations consist of marked anemia, splenomegaly, hepatomegaly and fever.

The diagnosis is made by direct visualization of the amastigotes in the tissues (especially bone marrow), research of the parasite's DNA, and serological tests.

Narrative

A 19-year-old man comes to our Emergency Department (ED) in December 2019 complaining of weight loss, asthenia and laterocervical lymphadenopathy started about few months before.

In anamnesis recent history of mononucleosis infection.

Physical examination revealed palpable spleen and protruding liver 4 cm below the costal arch, together with swollen latero-cervical and axillary lymph nodes bilaterally.

Patient underwent routine blood tests, chest X-ray and abdominal ultrasound.

Blood tests are reported: hemoglobin 9.1 g/dl, MCV 75.4 fl, white blood cells 2650/mm³ (N 23%, L 48%, M 21%, activated lymphocytes 7%), normal renal function, LDH 327 IU/L, alkaline phosphatase 162 IU/L, AST 59 IU/L, ALT 52 IU/L, C-reactive protein 43.1 mg/dl, negative procalcitonin, d-dimer 4257 ng/mL.

Chest x-ray showed no pathological changes while abdominal ultrasound showed increased liver size (cranio-caudal diameter of about 18cm), with regular margins and no focal lesions and spleen increased in size with biparietal diameter > 20cm, free from focal lesions. Furthermore, lymph nodes showed increased size in the periportal area, near hepatic hilum and the celiac trunk, with a maximum size of approximately 30x13mm.

Given the examinations and the clinical history, the patient was admitted to the Hematology Unit with suspected lymphoproliferative disease. Few days later a diagnosis of visceral leishmaniasis was made on the basis of microscopic examination of bone marrow needle aspiration describing "intra and extracellular images attributable to *Leishmania amastigotes*".

A treatment was started with Amphotericin B and he was transferred to the Infectious Diseases department from which he was discharged after a week with two outpatient appointments to complete the therapy.

Discussion

Analyzing the clinical case retrospectively at the end of the hospitalization, it can be concluded that the signs, symptoms, laboratory and ultrasound changes related to an infectious pathology of this type were all there.

With the suspicion of a lymphoproliferative pathology, the young patient was admitted to the Hematology Department, which in the end did not prove to be the most appropriate department.

However, specific serological tests for visceral leishmaniasis cannot be determined in the emergency setting so far.

Conclusion

Probably we could improve diagnostic-therapeutic procedure by performing targeted serological investigations, like antibody titers for visceral leishmaniasis, so as to reach the correct diagnosis more quickly and directly in ED. Therefore, we must always consider the infectious etiology until proven otherwise.

Attachment: case report leishmania.docx

#22279 : Case report: bacterial meningitis with normal initial/microscopic cerebrospinal fluid**Authors:**

Stéphane Deman (1), Gerlant Van Berlaer (1), Ives Hubloue (1)

1. Department of Emergency Medicine, University Hospital Brussels, Brussels, Belgium

Keywords: normal cerebrospinal fluid, meningitis, repeat lumbar puncture

Abstract :**Introduction:**

In order to exclude meningitis in a patient, cerebrospinal fluid (CSF) cell count and culture are indispensable analyses. There are few reports in the literature of cases of bacterial meningitis with normal CSF cell count and chemical analysis, but positive cultures later on.

Clinical presentation:

A 4-year-old boy presented at the Emergency Department (ED) with a 3-day history of fever, a newly onset photophobia, vomiting and refusing intake.

Upon arrival at the ED, he had a fever of 39.2° C (102.6° F), a heart rate of 122bpm, blood pressure 90/60mmHg, and oxygen saturation 100%.

Clinical examination showed an irritable child with a petechial rash in both armpits and uncertain neck stiffness. His throat was mildly congested, otoscopy was normal. Furthermore, there was no apparent focus for infection.

Blood, urine, and CSF were analysed and cultured. Since the child was clinically unwell and meningitis was suspected, ceftriaxone was initiated promptly without awaiting lab results.

Blood analysis revealed C-reactive protein of 204mg/L and plasma glycemia of 67mg/L. Microscopic urinalysis was negative. Direct CSF microscopy and analysis resulted in white blood cell count 4/mm³, red blood cell count 167/mm³, glycorachia of 51mg/dL, and proteinorachia of 233mg/L.

Since direct lumbar puncture (LP) investigation was negative, ceftriaxone administration was interrupted, and the child was hospitalised for further observation. Twelve hours later CSF culture yielded *Streptococcus Pyogenes*. Ceftriaxone was reinitiated during one week, as the antibiogram was not yet available. The patient was discharged after one week of antibiotic treatment.

Literature key-points:

Streptococcus pyogenes (group A streptococcus, GAS) is a rare culprit of meningitis, accounting for less than 1% of all cases of bacterial meningitis. The most common causative meningeal pathogens are *N. Meningitidis*, *H. Influenzae* and *Streptococcus Pneumoniae*.

The incidence of bacterial meningitis in children with microscopically normal CSF results may be as high as 12%. However it is rare in non-immunocompromised adults. Factors possibly contributing to the absence of inflammatory response in initial CSF results may be lumbar punctures performed too early after onset of complaints, and congenital or acquired deficiencies in the hosts defence mechanisms. Therefore, some authors suggest repeating LP in suggestive cases within 24 to 48 hours. Increased occurrence of complications and even death have been reported in meningitis with normal initial CSF when compared to positive direct LP results, as a result of delayed treatment initiation.

Conclusion:

Normal microscopic and biochemical CSF results do not exclude bacterial meningitis. This phenomenon often causes a delay in initiation of appropriate antibiotic treatment, with worse outcome consequently. Therefore, clinical suspicion of bacterial meningitis should warrant early antibiotic treatment initiation.

It may be useful to repeat LP shortly after. This case emphasizes the importance of systematically carrying out CSF cultures, independently of the biochemical and cytological profile of the CSF.

#22280 : QSOFA score versus SIRS criteria in sepsis risk prediction based on comorbidities

Authors:

Nurul Huda Ahmad (1), Toh Leong Tan (2)

1. Department of Emergency Medicine, Universiti Teknologi MARA, Selangor, Malaysia
2. Department of Emergency Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Keywords: qsofa , sirs , sepsis , risk , comorbidities , comorbidity

Abstract :Background

Current clinical identification of sepsis favors Quick Sequential Organ Failure (qSOFA) score for its superior predictive validity in out-of-ICU setting. Chronic medical conditions were known to independently influence outcome of sepsis based on the previously used SIRS identification of sepsis. We hypothesize that chronic medical conditions has similar association with QSOFA score and we are able to predict sepsis risk in all comorbidities evaluated. This study aims to compare qSOFA and SIRS criteria model in predicting risk of sepsis based on various chronic medical conditions.

Methods

This retrospective cross-sectional single center study was conducted in a teaching hospital in Kuala Lumpur, Malaysia in 2016. Total of 1712 patients of 18 year old and above with suspected infections based on initial diagnosis made at emergency department (ED) were identified. Clinical data were collected on all patients and evaluated using both qSOFA score and SIRS criteria. Each group was further categorized into sepsis and non-sepsis group. Prediction for patients with comorbidities and their risks of sepsis in both sepsis groups were analysed using univariate and multivariate logistic regression analysis.

Results

Prevalence of sepsis based on SIRS criteria were 22.5% and qSOFA score was 11.4%. Two comorbidities were identified to have potential influence in risk of sepsis in SIRS sepsis group using univariate analysis; diabetes mellitus (DM) and chronic lung disease (CLD) ($P < 0.05$). However, the constant p-value for its multilogistic regression was not statistically significant to construct a model for risk prediction ($P = 0.859$). Meanwhile in qSOFA sepsis group, independent risk factors for sepsis based on multivariate logistic regression analysis include DM ($P < 0.001$), dyslipidaemia ($P = 0.049$), CLD ($P = 0.011$), chronic kidney disease (CKD) ($P < 0.001$) and cerebrovascular disease (CVD) ($P = 0.015$). A model for risk prediction in QSOFA sepsis was able to be established ($P = 0.00$). Hosmer and Lemeshow test for goodness-of-fit demonstrate that this model for risk prediction a good fit.

Discussion

The outcomes for this study demonstrate comparable trend of sepsis prevalence with several western countries.¹ The lower prevalence using QSOFA reflects its higher specificity compared to SIRS sepsis. Our study was unable to demonstrate a valid model to predict sepsis using SIRS criteria. QSOFA score showed a better prediction model indicating the relevance of Sepsis-3 definition and its practicality in clinical setting. Patients with any of the five significant comorbidities in QSOFA risk prediction model are able to be risk stratified early in their encounter to ED. Among clinical relevance of QSOFA risk prediction model include the use of QSOFA score as clinical screening tool, allowing prompt sepsis-specified treatment initiation and reducing premature discharge of these patients from ED.

Conclusion

QSOFA score has a better risk prediction model for sepsis compared to SIRS criteria. Patients with DM, dyslipidaemia, chronic lung disease, CKD and cerebrovascular disease have increased risk for sepsis in QSOFA model.

Trial Registration / Funding Information (only) :

Approval obtained from Universiti Kebangsaan Malaysia ethics committee with grant number FF-2016-322. The data and information were readily

available from clerking sheet. Only demographic characteristics, such as age, gender as well as race, and presence of chronic medical illness are recorded for the purpose of the study. The data collected is intended for epidemiological study, therefore no ethical issues should be considered.

#22287 : Head Trauma and coma: major risk for elder patients in case of Major Trauma

Authors:

Gabriele Savioli (1), IRIDE FRANCESCA CERESA (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), MIRKO BELLATO (4), FABIO SCIUTTI (4), ROBERTA GUARNONE (5), GIORGIO ANTONIO IOTTI (4), SABINO LUZZI (6), MATTIA DEL MAESTRO (7), ANNA SIMONCELLI (8), FEDERICA MANZONI (9), Sara Cutti (10), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (11)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, Vigevano, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. , IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. NEURO RADIODIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
10. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Head Trauma ;coma ; elder patients ; Major Trauma

Abstract :

Premises and purpose of the study: Elderly, due to many co-factors (unstable walking, reduced sight, blance and reflexes), are exposed to a greater risk of falling and head trauma. We therefore analyzed if this statement is also valid in our Major Trauma (MT) population and if this could lead to worse outcomes.

Materials and Methods: We made a prospective monocentric observational study of all the patients who accessed our Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st january 2018 to 31 december 2018. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the patognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the italian society of gerontology and geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 501 patients in total. Between the patients over 75 years we enrolled 51 patients, 64% of which were male . 449, instead, were under 75, 73% of which were male. Regarding the body districts affected, in the elder population head trauma is the most frequently affected (in 62% of cases), followed, in order of frequency, by chest trauma (52%), lower limb trauma (24%), abdominal trauma (22%), upper limb trauma (14%), pelvis trauma (26%), spine trauma (36%). In the younger population chest is the most affected district (in 45% of cases), followed, in order of frequency, by head trauma (44%), spine trauma (34%), lower limb trauma (26%), upper limb trauma (25%), abdominal trauma (15%), pelvis trauma (13%). Head trauma is more frequent in the elderly in a statistically significant way ($p = 0.016$). This is further confirmed by the fact that in the elder population there is a greater request for maxillo-facial surgeon advice (10% against 2% in younger patients) and neurosurgeon advice (38% against 26%). Consequently also GCS is more impaired in elder subjects, in fact 12% of them had CGS<9 against 3% in the younger population.

Conclusions: Elderly with MT present more frequently head trauma compared to the younger population, needing more specialistic surgeon visits (maxillofacial and neurosurgical) and presenting more severe sensorial impairment.

#22288 : Major Trauma and Elderly: the risk of underestimating

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), MIRKO BELLATO (4), FRANCESCO BENAZZO (5), Guido Forini (6), Matteo Ghiara (6), ANNA SIMONCELLI (7), FEDERICA MANZONI (8), Elisa Bonadeo (9), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (10)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. NEURO RADIOLOGIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Major Trauma ;Elderly ; risk of underestimating ; triage

Abstract :

Purpose of the study: to find out if Major Trauma (MT) is more often underestimated in the elder population, compared to the younger one.

Methods: We did a prospective monocentric observational study of all the patients who accessed the Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st January 2018 to 31 December 2018. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the pathognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria.

Results: We enrolled 450 patients in total. Between the patients over 75 years, we enrolled 45 patients, 64% of which were male. 404 were, instead under 75, of which 27% were female and 73% were male. Between the older subpopulation, only 76% of the population received high priority code wait for the visit (red code), compared to 85% in the younger population. Also Trauma Team activation was lower (48% against 56%) in the elderly. The elder population presented more often haemodynamic instability (26% in the elderly vs 9% in the younger patients); they also present a more often impaired anatomic severity index like ISS > 15 (44% of the elder population against 32% of the younger population). Total Body CT results instead slightly more frequently positive in younger subjects (74.7% vs 68% of the cases), whilst there is no difference in the hospitalisation rate. Undertriage, calculated by using modified Cribari formula is 35% in the elder population and in 23% of the younger population. Overtriage was greater in younger patients (45%) compared to older patients (34%).

Conclusions: Elderly, inside the same wide catchment area of an Italian second level trauma center, present, in the same period, a more elevated underestimation and in particular a more elevated undertriage, as also reported by data from worldwide literature. This is likely due to many causes: vital signs in the elderly are often independently more compromised, so their impairment is sometimes attributed to preexisting causes. Furthermore, elderly more often present MT causes usually wrongly identified as low-risk like domestic accidents and other violence (in our elderly population respectively 26% and 2% compared to 6% and 0.2% in younger subpopulation).

#22289 : HIGHER RISK OF HAEMODIYNAMIC INSTABILITY FROM MAJOR TRAUMA IN ELDERLY COMPARED TO YOUNGER PATIENTS.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), Matteo Ghiara (4), Guido Forini (4), FRANCESCO BENAZZO (5), Elisa Bonadeo (6), Sara Cutti (6), LORENZO COBIANCHI (7), GIOVANNIRICEVUTI (1), MIRKO BELLIATO (8), Claudio Pavesi (9), GIORGIO ANTONIO IOTTI (8), Maria Antonietta Bressan (10)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. Orthopedia, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: HAEMODIYNAMIC INSTABILITY ; MAJOR TRAUMA ;ELDERLY

Abstract :

Premises and purpose of the study: Major trauma (MT) is the main cause of mortality all over the world for patients under 40 years old, but in the last few years the elder population exposed to MT significantly increased. Elderly ie are often subjected to dynamics that, although still major, are lower than the ones of the younger patients. We want to find out if Major Trauma (MT) is more often underestimated in the elder population, compared to the younger one. Therefore, the purpose of our study was to verify if this statement was true also in our population and if it could lead to worse outcomes in terms of haemodynamic instability.

Methods: we did a prospective monocentric study of all the patients who accessed our Emergency and Acceptance Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st january 2018 to 31 december 2018. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the patognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the italian society of gerontology and geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 450 patients in total. Between them 45 were over 75 years, of which 64% were male. 404 patients were under 75, of which 73% were males. Our results confirm that the most frequent cause of MT is road accidents (75% of cases in the younger patients, 68% in the elderly); elderly appear to be more exposed to domestic accidents (25% vs 5%) and to aggressions (2% vs 0.2%). Regarding haemodynamic instability, vital signs' derived shock indices are more impaired in elderly compared to young patients. In particular, Shock Index results > 1,4 in 6% of elder patients compared to 1% in young ones; MSI results greater than 1.3 in 10% of elderly patients compared to 6% in young ones and age-shock index results greater than 65 in 16% of elderly compared to 1% of the young ones. The presence of haemodynamic instability as defined by the American College of Surgeon is 26.5% in eldrer population compared to 9.2% in the younger population.

Conclusions: Elderly, inside the same wide catchment area (around 400.000 inhabitants) of an italian second level trauma center, although in the face of an even greater trauma maybe wrongly considered minor, present more frequently haemodynamic instability and a greater impairment of the vital signs compared to the younger population.

#22290 : MAJOR TRAUMA IN THE ELDER POPULATION COMPARED TO THE YOUNGER ONES: A GREATER ANATOMICAL INJURY.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: MAJOR TRAUMA ; ELDER POPULATION ; ANATOMICAL INJURY ; emergency room

Abstract :

Premises and purpose of the study: major trauma (MT) is the main cause of mortality all over the world in under 40 years patients, but in the last few years the elder population exposed to MT has significantly increased. Elderly more often undergo to dynamics that, although worse, appear still lower than the younger patients' ones. Elderly ie, due to many co-factors (unstable walking, reduced sight, blance and reflexes), are exposed to a greater risk of falling and trauma. often, for these same reasons, falling are victims of major trauma. We therefore analized whether this could be true in our population of traumatised patients and if this could result in worse outcomes, in teems of anatomical injury.

Methods: Abbiamo we did a prospective monocentric observational study on all the patients who accessed to the Emergency and Acceptance Deparrment of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st january 2018 to 31st december 2018. All the patients who accessed in our ED and listed in the hospital's MT registry were enrolled. Inclusive criteria were to meet at least one of patognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS@) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the italian society of gerontology and geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 501 patients in total. The patients over 75 years were 51, of which 64% were male. 449 were under 75 years, of which 73% were male. Our results confirm that the causes of MT are different in the two considered subpopulations. While road accidents remain the most frequent cause of MT (75% of cases in the younger population and 68% in the elderly), elderly are more exposed to domestic accidents (25% vs 5%), that are the second wide category of MT in elder population, and to other's violence (2% vs 0.2%). Considering the anatomic injury, it is more elevated in the elderly: 44% of them has ISS>16, compared to the younger population, in which 32% present ISS greater than 16. This is also valid concerning GCS which is lower than 9 in 3% of the younger patients compared to 16% in the elderly population. Elderly also presented a greater number of body districts affected, with 47% having 3 or more affected districts, against 28% of the younger patients.

Conclusions: Elderly, inside the same wide catchment area (about 400.000 inhabitants) of an italian second level trauma center di un trauma center, present a greater number of affected districts and a greater anatomic severity compared to younger subjects, although in the face of trauma that could be sometimes wrongly considered lower.

#22296 : Major Trauma Mortality: The Risk Increases In The Elderly Population.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), MIRKO BELLIATO (4), LORENZO COBIANCHI (5), GIOVANNI RICEVUTI (1), Matteo Ghiara (6), FRANCESCO BENAZZO (7), Guido Forini (6), ANNA SIMONCELLI (8), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. NEURO RADIODIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Major Trauma Mortality ; Elderly Population ; Emergency Department

Abstract :

Premises and purpose of the study: Major Trauma (MT) is the main cause of mortality in the world for under 40 years. Although the elder population with a greater risk has significantly increased. From one side, because life expectancy and quality have progressively gotten longer, leading to an increase in elder population. On the other side, better life conditions allow elder people a more active life, and more exposed to MT. Although elderly are more exposed, dynamics still remain slightly inferior than young people ones. This is the reason why elderly's MT is often underestimated. Although, age is a severe risk factor for unfavorable outcomes. For the great prevalence of elder population, estimated to be 20% of world total population in 2030, the study of MT in this population is of great interest nowadays. The purpose of this study is to evaluate, between the MT patients, the influence that age could have in terms of mortality.

Methods: We made a prospective monocentric observational study on all the patients who accessed to the Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 13 months: from 1st of January 2018 to 30th of January 2019. All the patients who accessed in our ED and listed in the hospital's MT register were enrolled. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the pathognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the Italian Society of Gerontology and Geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 501 patient in total. Between the over 75 patients we enrolled 51 patients, representing 10% of the total; 36% are women and 64% are men. 89,8% presented MT according to dynamic criteria, 18,4% anatomical criteria and 26,5% clinical criteria. 449 were under 75 years of age, 90% of the total; between them 27% were women and 73% men. 92% had MT according to dynamic criteria, 15% according to anatomical criteria, 9% according to clinical criteria. The more frequent cause of MT were road accidents, more frequent in the younger population (75% vs 68% dei casi). In the older subpopulation there was a greater incidence of domestic accidents (26% vs 6%). Total Body CT resulted more frequently positive in younger subjects (74.7% vs 68% of the cases). There was no difference in the hospitalisation rate. Mortality, instead, was statistically significantly higher in older patients (4% vs 1.33% in young patients; $p=0.052$).

Conclusions: Elderly, inside the same Italian second level trauma center's catching area, present, in the same period, statistically significant higher mortality compared to younger patients, although they do not present a non

superior trauma dynamic compared to the younger population and although lesion shown by CT result less frequent (but more severe).

#22297 : Pediatric procedural sedation and analgesia in european emergency departments: Surveying the current practice

Authors:

Cyril Sahyoun (1), Aymeric Cantais (1), Ruth Lollgen (2), Silvia Bressan (3), Baruch Krauss (4)

1. Divison of Pediatric Emergency Medicine, Geneva University Hospitals, Geneva, Switzerland

2. NZKJ, Emergency Department, Inselspital Bern, Bern, Switzerland

3. Divison of Pediatric Emergency Medicine, University Hospital Padova, Padova, Italy

4. Divison of Emergency Medicine, Boston Children's Hospital, Boston, USA

Keywords: Pediatrics, Procedural Sedation, Analgesia, Survey, Europe

Abstract :

Introduction:

Procedural sedation and Analgesia (PS) outside of the operating theatre have become standard care in managing pain and anxiety in children. The objectives of this study are to describe the current pediatric PS practice patterns in European Emergency Departments (ED), perform a needs assessment-like analysis of PS use, and identify barriers to its implementation.

Materials and Methods:

We conducted a descriptive study of EDs treating children through the Research in European Pediatric Emergency Medicine network. A 30-question survey was sent to the clinical chiefs of European EDs. A designated individual was identified to complete the survey in each institution. Study data were collected and managed using REDCap electronic data capture tools. Descriptive statistics were performed and data was secondarily analyzed by country.

Results:

One hundred sixty-nine EDs were surveyed, representing 19 countries. The mean number of children treated per year was 29,327 (95% CI 24,810-33,845). The total number of children represented by the study was approximately 5 million/year. Of the PS medications, midazolam (100%) and ketamine (91%) were available to most children, whereas propofol (68%) IN fentanyl (47%), chloral hydrate (42%), and IN dexmedetomidine (10%) were less frequently available.

Physicians performing PS were general pediatricians (82%), pediatric emergency physicians (70%), anesthesiologists (36%) and pediatric intensivists (29%). Anesthesiologists controlled ketamine and propofol use in 25% and 44%, although the majority (92%) of the participants reported that ketamine is a useful PS agent.

Safety and monitoring guidelines were common (75%), but pre-procedural checklists (51%) and capnography (47%) less frequently used A specific curriculum required for the staff administering PS was in place in 52% of EDs. In 56% of EDs, at least three quarters of staff performing PS were certified in pediatric advanced life support. Emergency Medicine was a prevalent board

certification (67%) but Pediatric Emergency Medicine was less common (29%). Physician (74%) and nursing (72%) staffing shortages were commonly reported as barriers to PS, as was lack of physical space (69%).

Sixty-five percent of participants were satisfied with their department's PS efforts. Nurse-directed triage protocols were in place in most EDs for paracetamol (99%) and ibuprofen (91%), but rarely for an oral (23%) or intranasal opiate (13%). Tissue adhesive for laceration repair was available to 90% of children, while topical analgesia for lacerations was available in 68% and for intravenous catheterization in 50%. A medical sedation service was available in half of the surveyed EDs. Child Life Specialists (CLS, 14%) and hypnosis (9%) were rare but the Netherlands, Sweden, Belgium and France had the most resources.

Conclusion:

PS is prevalent in European EDs but some sedation agents and topical analgesics are not widely available. Guidelines are common but further safety nets and CLS programs are lacking. Barriers to PS implementation include availability of sedation agents, staff shortages, and lack of space. These results can be used to bridge the gaps in best practice for European PS and serve as grounds for collaboration.

#22298 : Hospitalisation Rate And Length Of Hospital Stay In Case Of Major Trauma: A Comparison Between Older And Younger Population.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SEBASTIANO GEROSA (3), FEDERICA MANZONI (4), Maria Antonietta Bressan (5)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Hospitalisation Rate ; Length Of Hospital Stay ; Major Trauma ; Older And Younger Population ; Emergency Department

Abstract :

Premises and purpose of the study: Elderly have been, in the last few decades, more and more exposed to Major Trauma (MT) and the rate of elderly who reported a MT has been progressively raising. The old patient is universally considered a frail subject and therefore present the risk of worse outcomes. Therefore, the purpose of the study is to look if the elder population presented a higher rate of hospitalisation compared to the younger population.

Materials and Methods: A We did a prospectic monocentric observational study of all the patients who accessed to the Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st january 2018 to 31 december 2018. All the patients who accessed our ED and listed in the hospital-s MT register were enrolled. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the patognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the italian society of gerontology and geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 501 patients in total. Between the patients over 75, we enrolled 51 patients, 64% of which were male. 449 were, instead, under 75, and 73% of them were male. Hospitalisation rate resulted comparable in the two subpopulation, being 72% in the elder patients and 74% in the younger ones. The ICU hospitalisation rate was 16% in the elder subjects and 12% in younger subjects, a non statistically significant difference (p 0,3736). Although the mean duration of the ICU stay was greater in older patients (18.75 days against 9.45 in younger patients), it does not reach statistical significativity. The latter statement is valid also for the need of operation theatre during hospitalisation (18% against 12.88%)

Conclusions: Elderly with MT do not present a greater rate of hospitalisation, or ICU stay. They do not present a statistically significant increase in the duration of ICU stay neither in the operation theater need. This, in the face of a greater statistically significant mortality that emerged in our population. Gli anziani con trauma grave non presentano maggior tasso di ricovero in acuto, né in terapia intensiva.

#22299 : Different Causes Of Major Trauma In The Older Compared To Younger Populations.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), MIRKO BELLIATO (3), LORENZO COBIANCHI (4), SABINO LUZZI (5), Sarah Macedonio (6), SEBASTIANO GEROSA (6), GIORGIO ANTONIO IOTTI (3), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (7)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Causes Of Major Trauma ; Elderly ; Emergency Department

Abstract :

Premises and purpose of the study: Major Trauma (MT) is the main cause of mortality overall the world in patients under 40. Although, especially in the Western Countries, the old population with MT risk has significantly increased. The prevalence of old population is estimated to reach 20% of the world population in 2030, therefore our deep interest in studying MT in this subpopulation. The purpose of the study was to evaluate the different causes of MT in the elder population compared to younger one.

Methods: We made a prospective monocentric observational study of all the patients who accessed to the Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st of January 2018 to 31 December 2018. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the pathognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria.

Results: We enrolled 450 patients in total. Between the over 75 patients we enrolled 45 patients, 64% of which were male. Analyzing the MT causes we can see how different the two examined subpopulations are. The main cause of MT is road accidents, more frequent in the younger subpopulation (75% vs 68% of cases). In the older subpopulation there is a higher incidence of domestic accidents (25% vs 5%) that constitute the second wide category of MT in older patients. Between the younger patients we found 6% of work accidents and another 6% of sport accidents, category that show a very low representation in the older population. The two categories present the same rate of MT from self harm, being 2%. Although elderly are more often victims of violence from others (2% vs 0.2%). Considering, instead, MT defined by ISS > 15, it is shown how the rate of MT is greater in the older population (44%) compared to the younger ones (32%).

Conclusions: Elderly, inside a wide catchment area (around 400.000 inhabitants) of a second level Trauma Center, present, in the same period, different causes of trauma from the younger population, and this is likely due to exposition to different risks of trauma. Between the elderly there is prevalence of domestic accidents.

#22300 : Reduced Impact Of Major Trauma Coagulopathy And Of Haemorrhage In Case Of Major Trauma In The Older Population Compared To The Younger One.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Cesare Perotti (3), Alessandra Livraghi (3), Sarah Macedonio (4), SEBASTIANO GEROSA (4), LORENZO COBIANCHI (5), MIRKO BELLIATO (6), FRANCESCO BENAZZO (7), MARIO MOSCONI (7), GIORGIO ANTONIO IOTTI (6), Sara Cutti (8), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (9)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Major Trauma Coagulopathy ; Haemorrhage ; Older Population

Abstract :

Premises and purpose of the study: Major Trauma (MT) is the main cause of mortality overall the world in under 40 patients, but in the last few years the elder population exposed to MT has significantly increased. One of the main causes of avoidable deaths in the young patients, as can be widely found in literature, is bleeding, often due to trauma-related coagulopathy. The purpose of the study is to analyze if this data are valid also in the elder population.

Methods: We made a prospective monocentric observational study on all the patients who accessed the Emergency and Acceptance Department of Fondazione Policlinico IRCCS S. Matteo in Pavia for MT in 12 months: from 1st january 2018 to 31 december 2018. All the patients who accessed to our ED and included in our MT hospital trauma register were enrolled. Inclusion criteria were to meet the pathognomic classification criteria defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and taken up by our region. These are physiologic, anatomic and dynamic criteria. In line with the last recommendations of the italian society of gerontology and geriatrics we put the age of 75 as the cut-off to distinguish the elderly.

Results: We enrolled 450 patients in total. Between the patients over 75, we enrolled 45 patients, 64% of which were male. 404 were instead under 75, 73% of which were male. In our population, the presence of haemodynamic instability as defined by American College of Surgeons is greater in the elder population, being 26,5% against 9,2% in the younger population. Also mortality rate is greater in the elder patients (4% vs 1,3%). Evaluating the coagulopathy presence, it is similar in the two subpopulations (36.2% in the younger and 38% in the elder patients), whilst the haemotrasfusion need results greater in the younger patients (3.8% against 2%), in a statistically significant way with $p < 0.05$. Acid pH, precipitating factor of trauma coagulopathy, results to be more elevated in the younger patients (8.6%) and never present in our elderly case study.

Conclusions: Elderly, inside the same catchment area (around 400.000 inhabitants) of a second level italian trauma center, present less haemotransfusional need and the same coagulopathy rate compared to the younger population; although they present a greater mortality rate. Elderly's mortality could therefore be linked to other factors rather than bleeding.

#22301 : The Elderly Inpatients Of The Emergency Department For Infective Disease. Overview Of A Vulnerable Population From The Triage To The End Of The Process In An Emergency Department Organized By Different Level Of Intensity Of Care

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Viola Novelli (3), Sara Cutti (4), Leandro Gentile (4), carlo marena (5), Alba Muzzi (5), Elisa Bonadeo (4), Antonello Malfitano (6), VALENTINA ANGELI (7), Maria Antonietta Bressan (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. direzione medica di presidio, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
6. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Elderly ; Infective Disease ; Vulnerable Population ; Triage ; Emergency Department Organized By Different Level Of Intensity Of Care

Abstract :

Purpose: To describe and to analyze elderly population who go to the Emergency Department Organized By Different Level Of Intensity Of Care for fever caused by infectious.

Materials And Methods: we enrolled all patients wiage >75 years who went to the Emergency Department for fever caused by an infectious disease in 10 consecutive months (from 1st of January to the 31th of October of 2018).

We analyze the priority of the medical examination, the access ways, the waiting time and the time of the process. The study analyzes also the health gravity at the discharge, the outcomes and the returns. It's a retrospective study.

Results: 1636 patients were admitted for fever, of which 1034 were elderly. From all admissions the 4 % was for fever. Of which 43% go the ED spontaneously and 54% accompanied by the ambulance. 69% of the elderly were accompanied by local services 50% of the all inpatients received a low intensity code to the medical examination and to the allocation in a low intensity area of care. Only 30% of the elderly received the allocation to a low intensity level of care area, while 70% needed to be care in a medium-high intensity level of care. If the waiting time to the medical examination was less for the elderly (40 min vs 51 min), the time of the recovery process in the First Aid is more (7 h 22 min vs 5 h 50 min). The pneumoniae and the sepsis determine a more high rage of the admission in the elderly, respectively (43% vs 59% for the pneumoniae and 27% vs 20% for the sepsis). While the admissions for Urinary infectious disease are less frequent (26% vs 40% of the general population). The admission for colecistite is 4% vs 5% of the general population. Frequently the elderly is recovered (77% vs 55%). 70% of the hospital wards received a in patient from the ED, to do emocoltures. The admissions in ICU was less then 5%.

Conclusions: The elderly with fever are frequently serious and they need a medium-high level of intensive of care to take drugs, to multiparameters monitor and an observation. Frequently they are affected by sepsis or pneumoniae, determining a high admission rage.

#22302 : Sepsis In The Elderly: A Window In The Emergency Department. From The Survey To The Triage To The System
Indicators Of The Sepsis In The Elderly: The Role Of A Emergency Room Organized In Intensity Level Of Care

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Viola Novelli (3), Antonello Malfitano (4), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (5)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. DIREZIONE MEDICA DI PRESIDIO, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
5. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Sepsis ; Elderly ; Emergency Room Organized In Intensity Level Of Care ; triage

Abstract :

Purpose: To describe and to analyze the signs and the symptoms of the population who go our Emergency Department with the aim to identify early the sepsis.

Material And Methods The survey is on all inpatients of the ED that are received the sepsis diagnosis in 10 months (from 1st of January to the 31th of October of 2018), after the review of the hospital PTDA and the sepsis and the fever flowchart. The study focuses on the priority of the medical examination, the access way, the waiting time, all the process occurring in the Emergency Department and the gravity code of the patients at the moment of the discharge and the outcomes.

Results: 336 inpatients are enrolled in the study, of which 275 are elderly, with a male prevalence (55%).

The average age is 79. Only the 22% of the elderly went spontaneously to the ED, the 79% was accompanied by the ambulance. 20 % of the elderly inpatients received a high gravity level after the medical visit, 25% was assigned to the minor intensity care area and the last 75% to the medium–high intensity level of care. The average waiting time to the medical examination was 29 minutes. 22% of these inpatients needed to recover in Short Observation Intensity for an average time of 18 hours to stabilize the clinic state. Nearly all ED inpatient were recovered in and only the 1,1% were transferred to an hospital with a minor intensity level of care.

Conclusions: The ED inpatients with sepsis belongs to the elderly population. They are vulnerable and they need a medium–high level of intensity of care to take the drugs, to be monitored and to be subject of invasive procedures. A dedicated team and a care organization of the elderly inpatients with the sepsis determine the allocation of the more correct area of care and good waiting time and the process

#22321 : Elderly And Urinary Tract Infection In Emergency Department. Global Analysis Of Triage And System's Performance Indices Of A Emergency Room Organized By Areas Of Intensity Of Care In The Fragile Elderly.**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Antonello Malfitano (3), GIOVANNI RICEVUTI (1), Maria Antonietta Bressan (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Elderly ; Urinary Tract Infection ; Triage ; Emergency Room Organized By Areas Of Intensity Of Care ; Fragile.

Abstract :

Aim: Describe and typify the elderly population that accesses our emergency room for signs or symptoms which then make the main diagnosis of urinary tract infections.

Materials And Methods: We retrospectively analyzed all patients who received diagnosis of urinary tract infection at our emergency room in 10 consecutive months (January 1, 2018 – October 31, 2018). We analyzed the priority of the medical examination, the methods of access , waiting times, first aid process. We then analyzed the medical severity code at discharge and the outcomes.

Results: Of the 664 patients admitted for urinary tract infection, 275 were elderly. Among these, there is a slight male prevalence (58%). The median age was 81 years. While 64% of the general population entering by urinary tract infection came spontaneously, among the elderly as many as 56% came accompanied by 118. Among the elderly, 61% received low priority codes of medical examination and allocation at the low intensity of treatments, 39% instead a code of high priority to the medical examination, and more precisely 24% was attributed to the low-intensity wing and 15% to the medium-high intensity wing. More in detail as regards the color codes of priority to the medical examination we find that 2% of patients have been assigned a white code of priority to the medical examination, 60% is assigned a green code of priority to the medical examination, in 23% of cases a low-intensity care code, in 12% of cases a yellow code and well in 3% a red code. The average waiting time for the medical examination among all enrolled patients was 89 minutes, with a median of 61 minutes. The average process time was 4 hours and 42 minutes, with a median of 2 hours and 33 minutes, higher than the average process times of the general population that came for the same pathology (average time of 3 hours and 28 minutes) .

The medical severity code at discharge in elderly patients was elevated (yellow or red) in 17% of cases, compared to only 9% of cases in the general population. In addition, the elderly population required access to the intensive short observation to stabilize the clinical picture in 10% of cases compared to only 5% of the general population.

While in the general population 75% of patients are discharged, and only 24% hospitalized; in the elderly population as many as 39% need hospitalization.

Conclusions: Elderly patients who come to the emergency room for urinary tract infection are the most fragile category of the general population that accesses for urinary tract infection in the emergency room. They are in fact more frequently accompanied by 118, more often they need higher priority codes to the medical examination, more frequently they require medium-high intensity of care. they also more frequently need access to a stabilization area such as short intensive observation and more frequently they need hospitalization.

#22322 : Pneumonia In The Elderly: When Pulmonary Infections Determine Emergency Room Access. Triage Performance And System Analysis Of A Emergency Room Organized By Areas Of Intensity Of Care In Welcoming The Elderly Population.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Antonello Malfitano (3), Maria Antonietta Bressan (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. Malattie Infettive, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
4. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Pneumonia ; Elderly ; Triage ; Emergency Room Organized By Areas Of Intensity Of Care

Abstract :

Aim: Describe and typify the population that accesses our emergency room for signs or symptoms that then lead to the diagnosis of pneumonia.

Materials and methods: We retrospectively analyzed all patients who received pneumonia diagnosis in our emergency room in 10 consecutive months (1 January 2018 – 31 October 2018). We analyzed the priority of the medical examination, the methods of access, the waiting times and the first aid process. We then analyzed the medical severity code at discharge and outcomes.

Results: of the 565 patients with pneumonia, 443 were elderly, with a slight male prevalence (53%). The median age was 80. Among the elderly, the population accompanied by territorial emergency vehicles also prevails in the general population (23% came spontaneously, 77% accompanied by 118). 33% received low priority codes of medical examination and allocation at the low intensity of care, 67% instead a code of high priority to the medical examination, of this 5% was attributed to the low intensity of care wing and the remaining 95% to the medium–high intensity care wing. More in detail as regards the color codes of priority to the medical examination we find that 55% of the cases received a yellow code and 7% a red code. The median waiting time for the medical examination was 41 minutes, while the trial time was 7 hours and 10 minutes.

The medical severity code at discharge was white in 0% of cases, green in 53% of cases, 43% yellow and 4% of cases red. 53% required access to the intensive brief observation for stabilization of the clinical picture for an average time of 14 hours.

66% of patients were hospitalized, 6% transferred to a lower–care facility and only the remaining 28% discharged.

Conclusions: patients who come to the emergency room for pneumonia are more frequently elderly. These are complex patients, in large part they require a medium–high intensity of care for the administration of aerosol, oxygen and trp cadenced, multiparametric monitoring and oximetry. An intensive care organization with short intensive observation with a dedicated team therefore allowed immediate allocation to the most correct treatment area and excellent waiting and process issues.

#22358 : Shuttlescope®, a novel laryngoscope. Is one-handed endotracheal intubation feasible?**Authors:**

Julio Miguel Alonso Babarro (1), Juan Adriano Jimenez (2), Jose Medrano Laporte (3)

1. Intensive Care Unit, The Prince Charles Hospital, Queensland Health, Brisbane, Australia

2. Facultad de Medicina, Universidad del País Vasco, UPV/EHU, VITORIA-GASTEIZ, Spain

3. Hospital at Home Service, Hospital Universitario de Araba, VITORIA-GASTEIZ, Spain

Keywords: Laryngoscope, Difficult airway management, emergency

Abstract :

Background: Despite the fact that videolaryngoscopy has largely improved laryngoscopy, endotracheal intubation (ETI) is still a complex procedure, especially in the extrahospitalary setting. Shuttlescope® is a novel videolaryngoscope (VL) that allows performing both laryngoscopy and delivering of the Endotracheal tube (ETT) using only one hand, leaving an extra hand free.

Hypothesis: Shuttlescope® VL allows effective and safe ETI by ensuring the alignment and the delivering of the ETT with only one hand. It also improves safety by leaving an extra hand free, which may be a major advantage in difficult settings.

Objective: To compare efficacy and safety of ETI with Shuttlescope® VL and Macintosh laryngoscope by novice operators in a manikin model.

Methods: We conduct a randomized cross-over trial to assess efficacy and safety of Shuttlescope® videolaryngoscope compared to Macintosh laryngoscope in a manikin model (AirSim, TrueCorp®). Primary endpoints were time to intubation, defined as the time between the blade entry and exit from the mouth, and success rate after three attempts with each device. All operators were students from the last year degree from the Medicine Faculty of the Basque Country University, Vitoria-Gasteiz, Spain. All students received a rigorous 30 min standardized training on the new device and technique, which they didn't have previous exposure to, prior to the attempts. Mean times were compared with the T-Student test and Success rates were compared with the chi-squared test.

Results: In total, 30 operators participate in the study. After randomization, all students did a total of 90 intubations with each device. Mean time for ETI was 24 sg [6-66] with Macintosh laryngoscope compared to 16 sg [6-45] for the Shuttlescope® VL ($p < 0.001$). Success rate for ETT in the trachea was 61% with Macintosh laryngoscope and 100% with Shuttlescope® ($p < 0.001$).

Conclusions: Shuttlescope® is an easy to use videolaryngoscope that allows effective endotracheal intubation while leaving the right hand of the operator free during the procedure, which may be a major advantage in many situations and makes it very suitable for emergentists.

#22371 : The association between biochemical signs of renal dysfunction, inflammation and oxygen transport and in-hospital mortality in Emergency Department patients of different age categories.

Authors:

Bart Candel (1), Jamèl Khoudja (2), Menno Gaakeer (3), Ewoud ter Avest (4), Özcan Sir (5), Heleen Lameijer (6), Resi Reijnen (7), Erik van Zwet (8), Evert de Jonge (9), Bas de Groot (10)

1. Emergency Medicine, Máxima Medical Centre, Veldhoven, The Netherlands
2. , Leiden University Medical Centre, Leiden, The Netherlands
3. Emergency Medicine, Adz Hospital, Goes, The Netherlands
4. Emergency Medicine, University Medical Centre Groningen, Groningen, The Netherlands
5. Emergency Medicine, Radboud University Medical Centre, Nijmegen, The Netherlands
6. Emergency Medicine, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
7. Emergency Medicine, Haaglanden Medical Centre, The Hague, The Netherlands
8. Department of Biostatistics, Leiden University Medical Centre, Leiden, The Netherlands
9. Intensive Care Medicine, Leiden University Medical Centre, Leiden, The Netherlands
10. Emergency Medicine, Leiden University Medical Centre, Leiden, The Netherlands

Abstract :

Background Appropriate interpretation of blood tests is important for risk stratification in the Emergency Department (ED) but may change with increasing age of patients. Specific values for blood tests are used in many ED risk stratification tools and guidelines suggesting that above or below this value prognosis changes drastically. however, it is unknown whether relevant clinical thresholds for blood tests truly exist and if the association between blood tests and in-hospital mortality differs per age-category.

Aims To assess the association between biochemical signs of renal dysfunction, inflammation and oxygen transport and case-mix adjusted mortality, within different age categories.

Methods Observational multi-centre cohort study using the Netherlands Emergency department Evaluation Database (NEED). All consecutive ED patients ≥ 18 years of three hospitals were included. The associations between blood tests and in-hospital mortality were assessed in three age categories (18-65;66-80;>80 years) using multivariable logistic regression. Blood tests were divided in four to six categories, e.g. creatinine (0-50 (=reference),51-100,101,150,>150 $\mu\text{mol/L}$). Significant deterioration of adjusted odds ratios between categories were reckoned as relevant thresholds.

Results We included 94.974 patients in whom blood tests were performed, 2550 (2.7%) died in-hospital. In ED-patients aged 18-65 and 66-88 years, prognosis deteriorated substantially at CRP >50mg/L, while deterioration started at CRP >100mg/L for patients >80years. Haemoglobin <7mmol/L was associated with increased mortality in patients aged 18-65 and 66-80 years, but not >80 years. Sodium >135mmol/L was protective in patients aged 18-65 and 66-80 years, compared to >80 years. Age hardly affected the approximately linear associations between creatinine, urea, leucocytes and mortality.

Conclusion Our study suggests that several blood tests need to be age-adjusted for risk stratification. The prognostic value of blood tests is substantial and deteriorates linearly in several blood tests. Our results have implications for interpretation of blood tests and their use in existing risk stratification tools and guidelines in the ED.

Trial Registration / Funding Information (only) :

All authors have nothing to declare, no conflict of interest.

#22372 : The association between vital signs and in-hospital mortality in Emergency Department patients of different age categories.**Authors:**

Bart Candel (1), Renée Duijzer (2), Menno Gaakeer (3), Ewoud ter Avest (4), Özcan Sir (5), Heleen Lameijer (6), Roger Hessels (7), Resi Reijnen (8), Erik van Zwet (9), Evert de Jonge (10), Bas de Groot (11)

1. Emergency Medicine, Máxima Medical Centre, Veldhoven, The Netherlands
2. , Leiden University Medical Centre, Leiden, The Netherlands
3. Emergency Medicine, Adrz Hospital, Goes, The Netherlands
4. Emergency Medicine, University Medical Centre Groningen, Groningen, The Netherlands
5. Emergency Medicine, Radboud University Medical Centre, Nijmegen, The Netherlands
6. Emergency Medicine, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
7. Emergency Medicine, Elisabeth-TweeSteden Hospital, Tilburg, The Netherlands
8. Emergency Medicine, Haaglanden Medical Centre, The Hague, The Netherlands
9. Department of Biostatistics, Leiden University Medical Centre, Leiden, The Netherlands
10. Intensive Care Medicine, Leiden University Medical Centre, Leiden, The Netherlands
11. Emergency Medicine, Leiden University Medical Centre, Leiden, The Netherlands

Abstract :

Background Appropriate interpretation of vital signs is important for risk stratification in the Emergency Department (ED) but may change with increasing age of patients. Specific thresholds for vital signs are used in many ED risk stratification tools and guidelines, suggesting that above or below this threshold prognosis changes drastically. However, it is unknown whether relevant clinical thresholds for vital signs truly exist and if the association between vital signs and in-hospital mortality differs per age-category.

Aims To assess the association between initial vital signs and case-mix adjusted in-hospital mortality in different age categories.

Methods Observational multi-centre cohort study using the Netherlands Emergency department Evaluation Database (NEED) in which all consecutive ED-patients ≥ 18 years of three hospitals were included. The association between vital signs and mortality was assessed in three age categories (18-65;66-80;>80 years) using multivariable logistic regression. Vital signs were each divided in three to five categories, e.g. systolic blood pressure categories ($\leq 80, 81-100, 101-120, 121-140, >140$ (=reference) mmHg). Significant deterioration of adjusted odds ratios between categories were reckoned as relevant thresholds.

Results We included 101.415 patients of whom 2374 (2.4%) died in-hospital. Age-category hardly influenced the association between vital signs and relevant outcomes. Mortality increased approximately linearly with increasing heart rate categories, similar for decreasing peripheral oxygen saturation and systolic blood pressure categories. Relevant thresholds for mortality were found for mean arterial pressure (MAP) < 80 mmHg, respiratory rate > 20 /min, and for a temperature $< 35^\circ\text{C}$, while the odds for mortality did not increase with temperatures between $35-42^\circ\text{C}$.

Conclusion Age hardly influenced the association between vital signs and in-hospital mortality. Short term prognosis deteriorated approximately linearly with oxygen saturation, heart rate and systolic blood pressure. Only for respiratory rate, MAP, and temperature relevant clinical thresholds existed. Our results have implications for interpretation of vital

signs and used thresholds in existing risk stratification tools and guidelines in the ED.

Trial Registration / Funding Information (only) :

Nothing to declare, no conflict of interests

#22374 : A novel eco-guided central venous access in emergencies.

Authors:

Alberto Ángel Oviedo-García (1), Margarita Algaba-Montes (1), José Rodríguez-Gómez (1), Francisco Jesús Luque-Sánchez (1)

1. Emergency Department. Hospital de Valme. Sevilla., Servicio Andaluz de Salud, Sevilla, Spain

Keywords: Ultrasonography, emergency department, vascular access devices.

Abstract :

Brief clinical history: 52-year-old-woman addicted to parenteral drugs, stage HIV-C3 with 2 weeks duration fever. On arrival had malaise, hypotensive, febrile, tachycardic...

Misleading elements: it was not possible to catheterize a peripheral vein we performed a central line cannulation: ultrasound-guided infraclavicular axillary vein. Less arterio-venous overlap and a greater distance between artery and vein, and from vein to rib cage, should provide an increased margin of safety for this central venous cannulation. We will describe step by step, accompanied by images, the steps necessary to achieve infraclavicular axillary vein cannulation.

Helpful details: After performing the analysis and radiographs, the presence of bilateral pneumonia was detected, presenting the patient with leukocytosis with neutrophilia, together with an increase in acute phase reactants. After initiating hemodynamic support measures, together with non-invasive mechanical ventilation and empirical antibiotic therapy, the patient improved all her hemodynamic parameters, admitting to the infectious diseases department.

Differential and actual diagnosis: The differential diagnosis of sepsis should initially be considered with other causes of systemic inflammatory response syndrome such as severe acute pancreatitis, polytrauma, large burns, systemic diseases in the acute phase (vasculitis, primary antiphospholipid syndrome or autoimmune diseases); postoperative period of cardiac surgery with extracorporeal circulation, extensive tissue necrosis or immunological lesions. We must also take into account other situations of shock such as cardiogenic or hypovolemic.

Educational and/or clinical relevance: Currently, the cannulation of a central venous line is usually necessary to critically ill patients in the emergency department, and therefore is a basic skill that must be mastered by emergency physicians. Its main indications include the need for rapid fluid resuscitation, central administration of drugs, and hemodynamic monitoring of critical patients. Like any procedure, central venous access is associated with a risk of complications. With the advent of ultrasound and the experience in its use in critically ill patients, it appears that the overall incidence of complications accessing central lines is lower. The internal jugular cannulation guided by ultrasound reduces complications and increases the accuracy of the technique. The cannulation of the subclavian vein is popular, but is less accessible to the ultrasound. The axillary vein, a direct continuation of the subclavian vein, is an alternative. In a large study of central venous access guided by ultrasound in a group of complex patients, carried out by O'Leary et al, most patients undergoing axillary vein cannulation did successfully and safely, demonstrating a low rate of complications. Therefore, the axillary vein access ultrasound-guided appears to be a

very safe and effective alternative.

Ultrasound-guided axillary approach offers a number of potential advantages over others central line cannulation. The anatomy favours ultrasound guidance and less complications. Manual compression of the axillary artery or surgical access is possible if arterial damage is caused. The puncture site is further away from potential sources of infection in patients with tracheostomy, central chest wall burns or sternotomy wounds. Once mastered, this is a safe, useful, and reliable technique for central venous access, so the axillary vein is an useful alternative for central venous cannulation.

#22375 : Clinical ultrasound facilitated the rapid diagnosis of the cause of an inveterate abdominal pain.

Authors:

Alberto Ángel Oviedo-García (1), Margarita Algaba-Montes (1), José Rodríguez-Gómez (1), Francisco Jesús Luque-Sánchez (1)

1. Emergency Department. Hospital de Valme. Sevilla., Servicio Andaluz de Salud, Sevilla, Spain

Keywords: Ultrasonography, Emergency medicine, abdominal pain.

Abstract :

Brief clinical history: A 36-year-old male was admitted to the emergency room for the third time over a month due to abdominal pain, although he had months of pain development, with an increase in the number of bowel movements, sometimes with blood streaks along with loss of progressive weight.

Misleading elements: Analytics showed a mild leukocytosis with neutrophilia, along with a moderate increase in C-reactive protein.

Helpful details: Due to the persistence of pain, the emergency physician performed an abdominal clinical ultrasound, observing the terminal ileum with a transmural thickening, luminal narrowing and decreased peristalsis, involvement of the mesenteric lymph nodes and multiple underlying fats, suspecting Crohn's disease.

Differential and actual diagnosis: The differential diagnosis of Crohn's disease could involve any entity that causes abdominal pain, however, there are some pathologies that are most often confused in a young man, such as reoureteral colic, pyelonephritis, terminal ileitis, pancreatitis, acute appendicitis or even pneumonia.

Educational and/or clinical relevance: Abdominal pain is a common symptom in the Emergency Room, covering 10% of the assists. The delay in diagnosis and treatment adversely affects the patient's prognosis. The ileo-colonoscopy the "gold standard" in the diagnosis of inflammatory bowel disease, but it is considered too invasive for regular use and does not detect the existence of transmural inflammation or penetrating complications. Transabdominal ultrasonography is most commonly used to obtain images of hepatobiliary, urogenital, and pelvic structures. However, improvements in ultrasound technology and increasing familiarity with ultrasonographic findings in a variety of gastrointestinal disorders, as Crohn's disease (CD), are broadening its applications, and it is an aspect to be considered by Emergency Physicians (EP) in patients with recurrent abdominal pain.

An advantage of ultrasound imaging is that it permits evaluation of the transmural aspects of inflammatory pathology. Other advantages are that it is widely available, noninvasive, and can be performed without preparation at emergency room.

Suspicion of CD, the sensitivity of ultrasound is nearly 90%, especially if ileal location, as in the case presented; being the specific data and the transmural segment thickening, and the presence of fistulae or abscesses. Stenosis exists ultrasound specificity is greater than 95%. The main

limitations of ultrasound are proximal disease, proctitis, obesity and complications located in deep or retroperitoneal. Due to its great advantages such as low cost, accessibility, not irradiated and non-invasive ultrasound should be considered in the diagnosis and monitoring of all CD, therefore emergency physicians must be trained to diagnose sonographically acute complications of this disease

Bedside ultrasound of the patient by the EP could be an useful tool in cases with abdominal pain whose clinical data and laboratory are unclear.

#22376 : Usefulness of clinical ultrasound in a young septic patient.

Authors:

Alberto Ángel Oviedo-García (1), Margarita Algaba-Montes (1), José Rodríguez-Gómez (1), Francisco Jesús Luque-Sánchez (1)

1. Emergency Department. Hospital de Valme. Sevilla., Servicio Andaluz de Salud, Sevilla, Spain

Keywords: Ultrasonography, Emergency medicine, abdominal pain.

Abstract :

Brief clinical history: a 20 year-old-woman with no history of relevance, came to the emergency room with fever of 1 month duration and abdominal pain that persists after analgesic treatment. On arrival had malaise, hypotension, fever, tachycardic to 120 bpm, oriented in all three spheres, with no cardiorespiratory examination findings. Nontender abdomen, without peritonitis.

Misleading elements: The rest of the examination was irrelevant. Laboratory tests showed leukocytosis and neutrophilia, and abdominal and chest radiography was usual.

Helpful details: the emergency physician performed an abdominal clinical ultrasound that showed a complex, heterogeneous, poorly defined in right hepatic lobe anechoic and echogenic image, 70 x 85 mm, compatible with liver abscess (LA) at this level and later confirmed by abdominal CT. After initiating hemodynamic support measures, empirical antibiotic therapy and subsequently a percutaneous drainage of the abscess, the evolution of the patient was satisfactory being admitted to the surgery department.

Differential and actual diagnosis: In the case we presented the patient was in septic shock, so the differential diagnosis should initially include all causes of septic shock. On the other hand, we must bear in mind that clinical ultrasound revealed to us the possible origin of sepsis quickly and reliably, finding an image compatible with a LA. LA frequently manifests with right upper quadrant pain, fever, and hepatitis. Therefore many liver and non-liver ailments are in its differential diagnosis. Viral hepatitis, cholecystitis, cholangitis, right lower lobe pneumonia, appendicitis, and necrotic liver masses mimic that pattern closely.

Educational and/or clinical relevance: LA is an entity with high morbidity and mortality, and therefore require a diagnosis agile and dynamic, allowing appropriate management to avoid complications. Pyogenic-liver abscesses are due to bacteria mostly from the portal and biliary tracts. Diagnosis, based on ultrasound and/or computed-tomography-scan, is confirmed by percutaneous-needle aspiration to identify the bacteria causing the disease. Global management includes the treatment of sepsis and the aetiology of the liver abscess: biliary lithiasis, diverticular disease, or other intra-abdominal infections. However, no cause is found in 20% of cases. Treatment is based on antibiotics and, sometimes, percutaneous drainage while the cause may be treated immediately or later if the sepsis is controlled. Interventional radiology is often used. Surgery may be performed in case of failure of initial treatment and to cure the cause of the abscess. Prognosis may be poor, especially if there are associated-risk factors, such as diabetes and immunodepression, even though the outcome has improved with a multidisciplinary approach.

Liver abscesses are rare pathologies, but lethal without prompt diagnosis and treatment, based this on antibiotics and percutaneous drainage after culture. Bedside clinical abdominal ultrasound means applying an extraordinary advance in the diagnosis and evaluation of the patients for the emergency physicians, being transcendental training of this technique for quality care, comprehensive and dynamic services. Its use and distribution must be paramount, since it represents a cost-effective measure. Therefore emergency clinical ultrasound allows a versatile and comprehensive management, improving the prognosis of this disease in the majority of cases.

#22380 : Cardiac troponin I predicts clinical outcome of patients with cancer at emergency department

Authors:

SOO HYUN PARK (1), Jin-Ho Choi (1), Eun-Jin Kang (1), Taerim Kim (1), Won Cul Cha (1), Hee Yoon (1), Seung-Hwa Lee (2), Hyung-Doo Park (3), Tae Gun Shin (1), Min Seob Sim (1), Sung Yeon Hwang (1), IkJoon Jo (1)

1. Department of Emergency Medicine, Samsung Medical Center, Seoul, Korea, Republic of
2. department of medicine, Samsung Medical Center, Seoul, Korea, Republic of
3. Department of Laboratory Medicine , Samsung Medical Center, Seoul, Korea, Republic of

Keywords: Cardiac troponin I, Biomarker, Emergency department, Cancer patients, risk of death

Abstract :

Background Cardiac troponin I has been shown its prognostic ability in general population or cardiovascular disease but not yet in cancer patients. This study aimed to investigate the prognostic implication of cardiac troponin in cancer patients visiting emergency department.

Methods In this retrospective cohort study, cancer patients visiting emergency department were enrolled. Patients with previously known coronary artery disease or clinically indicated coronary angiography were not included. The maximal value of Siemens ADVIA Centaur troponin I Ultra assay (TnI) within 24 hour were assessed. Primary endpoint was 180-day all-cause death that included cardiovascular and non-cardiovascular death.

Results A total of 9,135 patients (mean age 63 year, male gender 60%) were enrolled. The lowest (0.006 ng/ml), assay-specific There was 3,192 (34.9%) all-cause death including 137 (1.5%) cardiovascular and 3,047 (33.4%) non-cardiovascular death in the 180-day follow-up period. The risks of all-cause, cardiovascular, and non-cardiovascular death increased across higher TnI strata (hazard ratio (HR)=1.3 to 2.9; 2.1 to 9.3; 1.3 to 1.8; $p<0.001$, all). These findings were consistent in clinical subgroups including solid and hematologic cancer.

Conclusions Cancer patients visiting emergency department with elevated troponin I were at increased risk of 180-day death. Cancer patients with elevated TnI may need additional evaluation or careful follow-up even without diagnosis of cardiovascular disease.

#22389 : Analysis of Patient Types from Nursing Home to Regional Emergency Medical Center

Authors:

hyo jeong choi (1), Ho jung Kim (2)

1. , soonchunhyang University Hospital, bucheon, Korea, Republic of

2. , Soonchunhyang University Bucheon Hospital, Bucheon-si, Korea, Republic of

Keywords: Long-tear care, Emergency Medical Cente, Nursing Home, KTAS, Triage, Transfer

Abstract :

Purpose

The National Statistical Office predicts that the nation will enter a super-aged society in 2025, where people aged 65 or older exceed 20 percent of the total population. The growing number of elderly patients is increasing demand for nursing homes, but most of them are unable to take immediate first aid. This results in overcrowding of emergency rooms. Therefore, the authors analyzed the types of patients who entered the nursing home from to the local emergency medical center to solve these problems.

Material & Method

As a follow-up study, this study was conducted on patients who visited the emergency medical center of a university hospital in a large city from January 1, 2019 to December 31, 2019.

Result

A total of 7,438 patients came to the hospital from nursing homes or nursing homes, of which 619 (8%) visited the nursing home. The average age was 73.7 ± 12.9 , with the majority of elderly patients in their 70s or older visiting, and the gender distribution was 332 (54%), 8% higher than that of women. Analysis results by severity KTAS 1 62(10%), KTAS 2 133(21%), KTAS 3 329(53%), KTAS 4 77(12%), KTAS 5 18(3%) The proportion of emergency cases was higher than non-emergency ones.

Conclusion

Patients with chronic and elderly diseases are in a state of extreme deterioration and can be placed in a critical condition, which, if not properly dealt with, could adversely affect the patient's prognosis, and thus the introduction of facilities and systems is necessary.

Key Words: Long-tear care, Emergency Medical Cente, Nursing Home, KTAS

Trial Registration / Funding Information (only) :

none

#22390 : Pain Management in Acute Coronary Syndrome During Prehospital Care at The Emergency Medical Service Prague**Authors:**

Miloslav Loucka (1), Katarína Veselá (2), Ondrej Franek (3), Tereza Krskova (3)

1. EMS, Zdravotnická záchraná služba hl.m. Prahy, Prague, Czech Republic
2. , Zdravotnická záchraná služba hl. města Prahy (EMS Prague), Praha 10, Czech Republic
3. , Zdravotnická záchraná služba hl.m. Prahy, Prague, Czech Republic

Keywords: pain, acute coronary syndrome, ems

Abstract :**Background**

Various forms of the acute coronary syndrome (ACS) are fairly common, occurring in about 3000 cases per one million people a year. In about 80% of the cases is the ACS accompanied with typical chest pain. Treatment of the stenocardia is integral part of the therapy. Relieving of pain and anxiety decreases sympathetic nervous system activation, oxygen demand in the myocardium and thus can have direct effect on the extent of ischemia. To manage the (usually severe) chest pain in ACS we use mainly strong opioids morphine, fentanyl or sufentanil. Although the benefit of morphine has been questioned, it remains in guidelines for treating both STEMI and NSTEMI.

Methods

We have examined every EMS report from 21st December 2018 to 21st December 2019 that was concluded with ICD10 diagnosis of I24.X or I21.X. Out of total 378 reports 344 contained sufficient information. 69 of these cases were managed by EMS personnel without the competencies to administer opioids. These cases were removed from the data set. Furthermore the cases of uncertain circumstances concerning the pain (such as comatous patients) were removed from the data set (21). Total of 254 cases remained. The observed parameters were presence of chest pain and administration of sufentanil or morphine.

Results

Sufentanil was administered in 111 cases, morphine in 33 cases, no analgesia was provided in 110 cases, 17 of these patients reported no chest pain (see chart).

Results show that 40% of the patients were left with no analgetics. Some of these patients might have refused therapy or were not suitable for opioid drugs treatment for various reasons. The number remains high nonetheless. There was little to no information in the reports concerning the severity of pain or the effect of treatment.

Conclusion

We recommend routine measuring of pain severity by VAS and obligatory treatment of severe chest pain of any origin.

#22391 : Acute Coronary Syndrome in the Pre-hospital Care of EMS Prague: Men versus Women**Authors:**

Tereza Krskova (1), Katarina Veselá (2), Ondrej Franek (1), Miloslav Loucka (3)

1. , Zdravotnicka zachranna sluzba hl.m. Prahy, Prague, Czech Republic

2. , Zdravotnická záchranná služba hl. města Prahy (EMS Prague), Praha 10, Czech Republic

3. EMS, Zdravotnicka zachranna sluzba hl.m. Prahy, Prague, Czech Republic

Keywords: acute coronary syndrome, EMS

Abstract :**Background:**

According to definition of European Society of Cardiology, acute coronary syndrome presents itself as a typical chest pain with irradiation to certain locations with other additional symptoms. The patients of EMS Prague consist of the population of Prague, where a total of 638,009 men and 670,623 women live⁴.

Method:

We conducted a retrospective data analysis of 344 patients with diagnosis of acute coronary syndrom (I21 and I24) between 21/12/2018 and 21/12/2019.

Results:

Diagnosis of ACS in pre-hospital care was more frequent in men, in a total of 247 cases, compared to 97 women. Males were younger with an average age of 61.4 years, the average age of females was 73.4 years. A total of 85% of men and 70% of women with ACS experienced typical chest pain, without significant differences between sexes. Women were more likely to complain about less typical symptoms such as back pain (12.3% women versus 5.2% men), nausea (26% women versus 20% men) or vomiting (14.4% women versus 8.9% of men).

Conclusions:

These findings suggest that there are differences in the incidence and presentation of ACS depending on gender. Our results correlate with the results of the 2017 Ali Ali Khesroha study "Gender differences between patients with acute coronary syndrome in the Middle East"⁵, suggesting that women with ACS are older and present less typical symptoms of ACS such as atypical pain or heart failure symptoms.

#22404 : Limb degloving : from traum to cicatrisation

Authors:

Heloise Boullenois (1), Camille CHOUFANI (2), Claire Chandre-Couturier (3), Abdo Khoury (4), Hugues LEFORT (3)

1. Chirurgie orthopédique, HIA Bégin, Saint-Mandé, France
2. , , ST MANDE CEDEX, France
3. Service des urgences, HIA Legouest, Metz, France
4. Service des urgences, Hôpital universitaire de Besançon, Besançon, France

Keywords: lima degloving, trauma, cicatrisation

Abstract :

Introduction : Limb degloving is a trauma in which the skin and cellulosic tissue is extensively avulsed and thus detached from the underlying tissues. It is a little known pathology and little reported in the literature. The objective of this work is to give the caregiver updated keys for efficient care, in a coherent therapeutic path, through an analysis of the literature illustrated by our experience. **Methods :** Analysis of the literature (PubMed®). Non-inclusion criteria: single finger degloving and Morel Lavallée syndrome. Based on our personal experience, our main judgment criterion was to identify the key elements in the management of limb degloving, from trauma to healing. **Results :** Usually as the result of violent trauma, degloving is often associated with other damages which must be looked for during the initial assessment (osteo-articular, vascular, nervous). The primary clinician must not get distracted by the impressive local damage which is as rare as it is serious. The initial assessment must include history of the injury, ensure the patient is haemodynamically stable and treat other potential life threatening injuries. Pre hospital care must protect the degloved skin, either with a clean dressing or better a sterile dressing, as a well-conserved cutaneous flap can be used later. The limb must be immobilized to prevent more damage. Subsequent examinations or imagery are guided by the initial assessment of other damage (osteoarticular, vascular). The precise examination of the soft tissue is made in the operating room by a surgeon. Urgent surgery must be conducted to reattach the degloved skin in order to minimise functional loss. Firstly, trimming of non-viable tissue is made in order to put back the skin flap after debridement, just like a skin graft; then, a negative pressure bandage on the degloved area is recommended. Further operations may be necessary, not only to remove further dead or infected tissue but also in order to cover the exposed skin by the flap. Different options will be discussed depending on the size of the exposed skin in order to maximize the chance of recovery (acellular dermal matrix with a thin skin, free or pedicle flap). Amputation is a real risk at any time of medical care. **Conclusion :** In a context of isolated limb degeneration, the stakes of multidisciplinary management of the first hours are important, with the primary caregiver playing a primordial role. Although degloving concerns only superficial skin tissue, if correct and rapid treatment is started, the affected limb has an improved prognosis.

#22409 : Face-to-face comparison between pre-hospital GCS, motor GCS and Age/GCS score for detection of 30-days mortality in traumatic brain injured: a prospective, multicenter study**Authors:**

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Carlos Del Pozo Vegas (3), Virginia Carbajosa Rodríguez (2), Germán Fernández Bayón (3), Ana Belén López Tarazaga (3), Juan Francisco Delgado Benito (4), Irene Sánchez Soberón (5), Miguel Ángel Castro Villamor (6), Leonardo Rodríguez (7), Laura Natividad Fadrique Millán (2), Pablo Del Brio Ibañez (2), Ancor Sanz García (8), Jesús Álvarez Manzanares (2), Iratxe Moro Mangas (3), Juan Carlos Sánchez Rodríguez (2), Tony Giancarlo Vásquez del Águila (3), Raquel María Portillo Rubiales (9)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
4. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Salamanca, Spain
5. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Valladolid, Spain
6. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
7. Surgery Department, Hospital Sanatorio de Luanda, Luanda, Angola
8. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
9. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain

Keywords: Glasgow Coma Scale, Pre-hospital Care, Clinical Decision-Making Patient Safety, Clinical Deterioration

Abstract :

Background: The traumatic brain injury (TBI) often requires intensive care unit (ICU), presenting high mortality, as well as a large number of added sequelae. TBI are complex situations that can clearly benefit from prehospital care, developed at the scene or en route, contributing decisively to avoid brain injuries secondary to hypoxia or hypotension.

The main objective of this study is to compare the diagnostic accuracy of the Glasgow Coma Scale (GCS), the motor component of the GCS and the Age / GCS for the detection of 30-day mortality.

Methods: Multicentric prospective observational longitudinal study, between April 1, 2018 and October 30, 2019. The study was developed on a reference population of 1,113,073 inhabitants, distributed in four provinces of Spain (Burgos, Salamanca, Segovia and Valladolid). It was considered that a patient fulfilled criteria to be included in the study if he had been attended by Advanced Life Support and transferred to the Emergency Department with principal diagnosis of TBI, and did not meet any exclusion criteria: under 18 years old, cardiorespiratory arrest, exitus, pregnant women, patients with psychiatric pathology or terminal pathology or discharged in situ. Demographic data (age and gender) and clinical observations for calculating GCS were collected during the first contact with the patient in prehospital care.

Inpatients in ICU and 30-days mortality data were obtained by reviewing the patient's electronic history at 30 days from the index event.

The main dependent variable was mortality from any cause in the hospital before the first 30-days from the index event.

The area under the curve (AUC) of the receiver operating characteristic (ROC) of the GCS scale, motor GCS and Age/GCS was calculated in terms of 30-day mortality, and the AUC were compared to each other to see the statistical significance.

Results: a total of 209 patients were included in our study. The median age was 54 years (IQR: 42-70 years), 32.5% of them were women. The 30-day mortality was 12.4% (26 cases), with an ICU entry rate of 23.9% (50 cases)

The AUROC for 30-days mortality of GCS was 0.860 (95%CI:0.76-0.95), of motor GCS was 0.818 (95%CI:0.71-0.92) and for Age/GCS was 0.914 (95%CI:0.83-0.99) ($p < 0.001$ in all cases). In the comparison of the curves there were no significant differences between the GCS and the motor GCS ($p > 0.168$), but for the Age / GCS with respect to the previous two ($p < 0.001$).

Conclusions: The Glasgow Coma Scale is used as a standard to establish the severity of the TBI, or even to determine the need for advanced airway management or to determine the most appropriate hospital for your pathology. With our study we have observed that the Age / GCS have a higher diagnostic accuracy, so that the EMS should contemplate among their routine evaluations this modified scale to know the patient's physio-pathological situation from the initial moments and thus mark the best strategy for each patient.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers (reference CEIC: #PI 18-010, #PI 18-895, #PI 2018-10/119, #PI MBCA/dgc and #CEIC 2049). All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) with registration number GRS 1678/A/18 and INT/E/02/19.

#22411 : Increases the level of lactate during high-fidelity simulation in undergraduate medical students': Artificial neural network-predictive model

Authors:

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Miguel Ángel Castro Villamor (3), Carlos Del Pozo Vegas (4), Ancor Sanz García (5), Daniel Viña Guerra (6), Alvaro García Aldonza (6), Ana Ramajo Sánchez (6), Rubén Rivas Martínez (7), Esther Durá Ballester (8), Elena Medina Lozano (9), Juan Carlos Sánchez Rodríguez (2), Raquel María Portillo Rubiales (10), María Blanca Gutiérrez Escribano (4), Rubén Herrán-Monge (6)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
4. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
5. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
6. ICU, Hospital Universitario Río Hortega, Valladolid, Spain
7. Hospitalization, Hospital Universitario Río Hortega, Valladolid, Spain
8. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
9. Unidad Móvil de Emergencias, Ambuibérica, Valladolid, Spain
10. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain

Keywords: Patient Simulation, Lactate, Patient safety, Clinical response, Team training, Prehospital care, Students, Medical

Abstract :

Background: High-fidelity clinical simulation (HFCS) is a reality in most of the Faculties of Health Sciences. Faced with this type of scenario, students react at a psychological level (insecurity, fear of the unknown, avoidance of situations), physiological (alteration of heart rate, tachypnea, sweating, mydriasis) and metabolic (change in pH, increase in levels of lactate and cortisol).

The objective of this study was to design a predictive model with demographic, physiological and environmental conditions variables of the simulation laboratory, to predict the risk of increasing above 4 mmol / L of the lactate level in students of the last year of the medical degree during the development of a clinical simulation scenario.

Methods: Longitudinal prospective observational study, on those students of the sixth year of the Medicine degree, between October 1, 2019 and January 15, 2020.

The study was carried out at the Faculty of Medicine of the University of Valladolid (Spain).

A neural network (NN) has been developed using the multilayer technique (a hidden layer with two units in each hidden layer), use of a random partition with batch training, through the hyperbolic tangent activation function (output layer: Softmax). Dependent variable: determination of lactate greater than 4mmol / L after finishing the simulation scenario; independent variables: factors: sex, scenario (benzocaine poisoning, hypoglycemia, supraventricular tachycardia and carbon monoxide poisoning) and role (team leader or assistant); Co-variables: age, temperature, humidity and noise in the simulation laboratory, weight, height, heart rate, temperature and blood pressure.

Additionally, area under the curve (AUC) of the receiver operating characteristic (ROC) of the final lactate greater than 4 mmol/L was calculated for the generated NN.

Results: a total of 150 students were included in our study. The median age was 23 years (IQR: 23-24 years), 65.6% of them were women. The students with lactate level over 4 mmol/L was 15.2% (23 cases).

Summary of NN case processing: training: 76 (73.1%; reserve: 28 (26.9%). Correct training percentage: 94.7%, reserve percentage: 75%. AUROC of NN created: 0.930. Standardized importance of variables

introduced: temperature 100%, noise 88.2%, humidity 86.9% (all of them referred to the simulation laboratory), age 80.9%, systolic blood pressure 72.4% and diastolic 70.7%, body temperature 60.7% The rest of the variables present a normalized influence less than 50% in the NN.

Conclusions: The use of NN can be of great help in the HFCS to be able to predict which students will exceed the recommended lactate thresholds, a fact that can negatively influence the learning process. The environmental conditions of the simulation laboratory have a preponderant weight on the metabolic response of the students, a fact that must be contemplated by the professors who must prepare the laboratory with the ideal environmental conditions so as not to increase lactate levels.

Trial Registration / Funding Information (only) :

The Ethics and Clinical Research Committee of the Rio Hortega University Hospital in Valladolid approved this study (PI-033/18), which was registered in the International Clinical Trials Registry Platform (doi.org/10.1186/ISRCTN32132176). The present study was in accordance with Good Clinical Practice and the Declaration of Helsinki. The study was coordinated by the Advanced Clinical Simulation Center of Faculty Medicine (Valladolid University). This study is reported in line with the STROBE statement.

#22412 : Spontaneous coronary artery dissection in EMS

Authors:

Ondrej Felix (1)

1. EMS, ZZS HMP, Prague, Czech Republic

Keywords: coronary artery dissection disappearing ST-Elevation

Abstract :

Clinical history:

A 40-years-old thin woman presented with 30 minutes acute retrosternal burning pain. She was in good condition without pain radiation or breathing problems. Her only symptom was, the worsening pain behind sternum, which began 2 days ago. In the first 4-lead Electrocardiogram was an ST-segment 0,8mV elevation in the II, III, aVF leads. As a next step we proceed a 12-lead Electrocardiogram. The result was also ST-Elevation in V1-V3 leads. But in this Electrocardiogram shows the ST-Elevation only 0,6mV. The patient felt reduction of the pain during this examination and she was completely asymptotic. She was treated with heparin and after 10 minutes we repeated the 12-lead Electrocardiogram. Here were any pathological signs shown and the ST segment was isoelectrial. In past medical history was a hereditary joint disease with intermittent Corticoide Therapy.

The patient was transported after brief consultation with cardio center to emergency department as suspect acute myocarditis. The 12-lead Electrocardiogram and stand-by Echocardiography were without pathological signs during the admission. The bedside troponin was on level 1,5ug/l (norm < 0,027 ug/l). Next day a Cardiac catheterization was executed. The intervention revealed the spontaneous coronary artery dissection, which was treated.

Misleading elements: The patient was almost asymptomatic and the last ECG was without pathological signs. Because of the hereditary joint disease was the Myocarditis as lead diagnosis.

Helpful details: The corticoid therapy is a significant cause of spontaneous artery dissection. This therapy in combination with disappearing ST-Elevation should lead us to right diagnoses.

Differential Diagnosis: Myocarditis. Endocarditis, Myocardinfraction

Educational relevance: Second 12-lead EKG is good procedure by diagnostic of almost asymptomatic patients. By disappearing of ST-Elevation in combination with corticoid therapy should be considered a spontaneous coronary dissection as a main diagnosis.

#22429 : Management of traumatic isolated unilateral oculomotor nerve palsy in the emergency department and literature review**Authors:**

Volkan Ülker (1), Sami Olkaç (2), Necip Gökhan Güner (3), YUSUF YÜRÜMEZ (2)

1. Department of Disaster Medicine, TC Bezmialem Foundation University, Institute of Health Sciences, Istanbul, Turkey

2. Department of Emergency Medicine, TC SB Sakarya University, Faculty of Medicine , Sakarya, Turkey

3. Emergency Medicine Unit, TC SB Sakarya University, Education and Research Hospital, sakarya, Turkey

Keywords: Emergency Department, Isolated oculomotor nerve palsy, Minor head trauma, Mydriasis, Ptosis

Abstract :**INTRODUCTION**

Cranial nerve lesions are observed due to congenital, infectious, neoplastic formations, migraine and trauma; besides they mostly occur due to head trauma. Along with the patient's age, main complaint of administration and clinical findings, neuroradiological imaging studies guides the diagnosis. Oculomotor nerve fibers are the leading cranial nerve in these traumas. This case was written to review diagnostic processes related to isolated 3rd cranial nerve palsy and practical guide to emergency physicians.

CASE REPORT

A 57-year-old female patient was brought to the emergency room by Emergency Medical Services due to a motor vehicle accident. The history of accident was taken from the patient herself. It was seen that the patient couldn't open the left eyelid after trauma. No medical history and she was conscious, cooperative and orientated. Vital findings were normal. In the physical examination, there was a scalp incision in the right parietooccipital region and had a subcutaneous hematoma in the left frontal region. There was also no evidence of bacillary bone fracture. No motor or sensory deficits were detected in the neurological examination. However, ptosis in the left eye, loss in the direct light reflex, restricted medial movements of the eye and mydriasis were determined. The pupil was dilated and non-reactive to light. Radiological examination is normal. The patient was consulted to eye, neurology and neurosurgery clinics. She was hospitalized with the diagnosis of isolated 3rd cranial nerve palsy. After 2 months, the symptoms improved minimally and continued to observation.

DISCUSSION

The oculomotor nerve provides the eyeball's inward, upward, downward and upward-outward movements. The incidence of isolated unilateral third nerve palsy was reported to be 0-15%. Oculomotor nerve palsy can be classified in different ranges like, it may be congenital or acquired, complete or partial, accompanying pupil or containing pupil, isolated or more extensive signs of neurological involvement. Unilateral oculomotor nerve palsy is manifested as pupil enlargement, limitation of movement in the eye and ptosis. In our cases we observed these clinical findings. When faced with such a case, all other injuries should be evaluated by comprehensive clinical/neurological examination followed by emergency imaging. A similar

approach was shown in our case and no pathology was detected in imaging tests. In our case, we made the diagnosis with the clinical signs and symptoms of the patient. The absence of any lesion on CT imaging during the initial admission is considered to as a good prognosis and a high recovery rate is expected. After 4 months, the oculomotor nerve partially healed. In another reported case, hospitalized the patient for follow-up and the patient was discharged with minimal recovery and followed up closely. In our case, the patient was treated with corticosteroid for 3 days in the neurosurgical service. She was discharged after being taken under control of the outpatient clinic. After 2 months, the symptoms improved minimally and continued to observation

CONCLUSION

Isolated unilateral oculomotor nerve palsy is a rare condition usually secondary to major trauma. In addition to, there may be isolated unilateral oculomotor nerve palsy without any evidence of neuroimaging abnormality. Emergency physicians should be vigilant in such cases that should perform detailed neurological examination and clinical follow-up for the patient's complaints.

Attachment: figures (4 pieces).docx

#22430 : Does preinjury anticoagulant or antiplatelet medication increase the need for blood transfusions in patients aged >65 years with traumatic brain injury?

Authors:

Se Heon Kim (1), Young Hoon Sul (1)

1. Trauma Surgery, Chungbuk National University Hospital, Cheongju, Korea, Republic of

Keywords: bleeding, head trauma, medication, old age, outcome

Abstract :

Background: Anticoagulant or antiplatelet medications are commonly prescribed in older adults, increasing bleeding tendency and affecting traumatic brain injury (TBI)-related morbidity and mortality.

Objective: This study aimed to determine the effects of preinjury anticoagulant or antiplatelet medication on blood transfusions and outcomes in patients aged >65 years with TBI.

Methods: We retrospectively reviewed records of patients with TBI without other injuries admitted to our hospital between January 2016 and June 2019. We compared the number of blood transfusions administered and outcomes between patients who were receiving anticoagulant/antiplatelet medication and those who were not.

Results: Overall, 82 patients (66% male) with an average \pm standard deviation age of 76.6 ± 7.29 years were enrolled. Thirty-one patients were receiving anticoagulants or antiplatelets and 51 were not. There were no differences in age, medical history, Injury Severity Score, and Glasgow Coma Scale score between the groups. International normalized ratios of patients who were on warfarin were significantly higher than those of patients who were not ($p < 0.05$).

Analysis of covariance demonstrated that patients who were receiving medications needed more plasma transfusions than did those who were not ($p < 0.05$). The incidence of complications was 64.5% and 37.3% in patients who were and were not receiving medication, respectively ($p < 0.05$). Multivariate regression analysis showed that patients who were receiving medications bled 5.62 times more than did those who were not (95% confidence interval: 1.52~20.70).

Conclusions: Bleeding incidence and plasma transfusion requirements are increased by preinjury anticoagulant or antiplatelet medication in patients aged >65 years with TBI.

Trial Registration / Funding Information (only) :

This study was supported by a research grant from the Chungbuk National University in 2019.

#22431 : Title: An Eclipse of the Heart – two case reports of Vasospastic Anaphylaxis

Authors:

HEMA PAGADALA (1), Narendra nath Jena (2)

1. PGY III, Resident in Masters in Emergency Medicine, GWU- USA, Institute of Emergency Medicine, Meenakshi Mission Hospital & Research Center, Madurai, Madurai, India

2. Director & Head, Institute of Emergency Medicine, Meenakshi Mission Hospital & Research Center, Madurai, India

Keywords: Acute allergic coronary syndrome, Vasospastic anaphylaxis, Kounis syndrome

Abstract :**INTRODUCTION**

Anaphylaxis rarely manifests as a vasospastic acute coronary syndrome with or without the presence of underlying coronary artery disease. Kounis syndrome is defined as acute coronary syndrome caused by release of inflammatory mediators following an allergic reaction to a drug or other substance. It is a rare syndrome as per literature only 175 cases reported till date. We present two cases of allergic coronary syndrome who presented to our Emergency Department.

CASE REPORT 1:

A 60 year old male presented to our hospital with complaints of chest pain, vomiting, giddiness, palpitations, breathlessness & itching all over body for past one & half hours. Initially patient was evaluated for Acute coronary syndrome with positive findings. On thorough primary, secondary survey & history, we found out he was prescribed with Amoxicillin for cutaneous infection after which he developed allergic reaction. Patient was treated for anaphylaxis & Acute coronary syndrome. Coronary angiography was normal. ECG done in subsequent hours showed no ST elevation. Hence patient was diagnosed as allergic coronary syndrome or kounis syndrome due to amoxicillin

CASE REPORT 2:

A 62 year old female, a case of carcinoma cervix who underwent hysterectomy found to have incisional hernia for which laparoscopic hernia repair was planned & she was given xylocaine test dose preoperatively after which she developed breathlessness, palpitations, sweating and giddiness. Patient was diagnosed as inferior wall MI and referred to our center for further management. On receiving in ED she was hypotensive (70/?) with feeble peripheral pulses, facial puffiness & swelling of lips. She was treated for Acute Inferior Wall Myocardial Infarction and

Anaphylactic shock. Electrocardiogram done 3 hours of her initial presentation showed surprisingly resolution of ST changes. Coronary artery angiogram was done showing single vessel disease for which medical management was started. This patient had underlying coronary artery disease which was triggered by xylocaine induced anaphylactic reaction and precipitated as allergic acute coronary syndrome. Hence diagnosis of type 2 Kounis syndrome was made, patient improved clinically and discharged after 5 days.

CONCLUSION

Kounis syndrome is easily overlooked because of varied clinical presentations. The ischemia in allergic reaction is secondary to the release of inflammatory mediators. The diagnosis and treatment of kounis syndrome can be challenging as it requires both the cardiac and anaphylactic pathophysiology to be addressed concurrently.

Attachment: Eclipse of the heart abstract.docx

#22443 : Incidence, mortality and factors associated with primary postpartum haemorrhage following in-hospital births in northwest Ethiopia.

Authors:

Bewket Tadesse Tiruneh (1), Gayle McLelland McLelland (1), Virginia Plummer (1)

1. School of Nursing and Midwifery, Monash University, FRANKSTON, Australia

Keywords: Epidemiology, Incidence, Postpartum Haemorrhage, Postpartum Hemorrhage, Risk Factors

Abstract :

Background: Primary postpartum haemorrhage remains the primary cause of maternal mortality in low-resource countries such as Ethiopia. National datasets about the incidence of primary postpartum haemorrhage are often limited. This study was designed to determine the incidence, mortality, and factors associated with primary postpartum haemorrhage following in-hospital births.

Methods: This was a cross-sectional study design, an audit of 1060 maternity care logbooks of discharged women at Felege Hiwot Referral Hospital and University of Gondar Comprehensive Specialized Hospital. The data were abstracted from December 2018 to May 2019 using systematic random sampling. Exclusion criteria were logbooks of women aged less than 18 years old or women with maternity care logbooks which had been transferred to another department. The tool used was the Facility Based Maternal Death Abstraction Form. The diagnosis of the woman's primary postpartum haemorrhage was informed by one of two methods. The first was by the estimated blood loss recorded by the staff. The second was the medical staff diagnosis and recording of the woman as having primary postpartum haemorrhage. Data were entered, cleaned, and then analysed using SPSS version 25. Bivariate logistic regression was fitted. Adjusted odds ratio with 95% confidence interval was used to determine the statistical significance.

Results: The incidence of primary postpartum haemorrhage was nearly 9.0%. Of these, there was 7% maternal mortality. Predominant to women in Ethiopia health facility referrals of women in labour (AOR: 2.13; 95% CI: 1.19, 3.80), birth attended by final year medical students (AOR: 3.59; 95% CI: 1.89, 6.84), women who were discharged six hours following birth (AOR: 3.50; 95% CI: 1.24, 9.91) were associated with primary postpartum haemorrhage ($p < 0.05$).

Discussion & Conclusions: This study found that the reported incidence of primary postpartum haemorrhage was relatively low, however, the associated deaths of women found were comparatively high. Most factors contributing to the incidence of primary postpartum haemorrhage were similar to those found in previous studies. However, three factors prevail for women in Ethiopia: women discharged 6 hours post-partum, transfers from primary health centres, and birth attendance by final year medical students.

Funding: This study was unfunded

Ethical approval and informed consent: Prior to commencing data collection ethics approval was sought and approved by Human Research Ethics Committee, Monash University (Project ID: 14113) on 24/08/2018 and Institutional Review Board for Human Research of the University of Gondar on December 20/2018. As the women were already discharged, and not all contactable in rural areas, they could not consent to this research retrospectively providing permission to the reviewing of their maternity care logbooks. The ethics committees granted a waiver of consent.

Trial Registration / Funding Information (only) :

Trial Registration -Not applicable Funding- This study was unfunded

#22444 : A case series report of post traumatic infarct- diagnosed in ED with repeated clinical examination

Authors:

Solaipandian Madhumathi (1), Jena Narendra Nath (2)

1. PGYIII, Resident in Masters in Emergency Medicine, GWU-USA, Institute of Emergency Medicine, Meenakshi Mission Hospital and Research Centre, Madurai, India

2. Director and Head, Institute of Emergency Medicine, Meenakshi Mission Hospital and Research Centre, Madurai, India

Keywords: post traumatic infarct, RTA , clinical examination

Abstract :**ABSTRACT**

Post-traumatic cerebral infarction (PTCI) is one of the most severe secondary insults after traumatic brain injury (TBI), and is known to be associated with poor outcome and high mortality rate. Seven patients presenting to our ED with h/o RTA had a normal CT brain on initial evaluation and within 4-7 hours patient had clinical symptoms of hemiplegia and repeat CT brain post 6 hrs of the initial CT showed acute infarcts. HENCE We assessed the practical incidence and risk factors for the development of PTCI in patients with normal CT brain in initial evaluation followed by ED residents to repeat clinical CNS examination and finding out the presence of classical symptoms and signs of CVA which was absent in the initial evaluation.

INTRODUCTION

Posttraumatic cerebral infarction (PTCI) is a known complication of craniocerebral trauma. A variety of mechanisms may account for this complication, including cerebral vasospasm, vascular compression, or attenuation due to adjacent mass effects producing cerebral displacement/herniation, direct vascular injury, embolization, and systemic hypoperfusion. Infarction of the occipital pole following compression of the posterior cerebral artery (PCA) by the herniating medial temporal lobe is perhaps the most well-recognized mechanism leading to PTCI. The precise frequency with which cerebral infarction complicates craniocerebral trauma and its influence on mortality are not well established.

METHODOLOGY

In The months of August to January - 7 patients presented to our ED were diagnosed with post traumatic infarct these patients underwent initial computed tomography (CT) in the Emergency Department, and then they underwent subsequent CT surveillance during admission. The admission CT revealed no abnormality and the subsequent low-density area is compatible with patients showing an acute onset of corresponding clinical signs and symptoms. We analyzed also neurological status in terms of Glasgow coma scale (GCS) score, repeated CNS examination and signs of brain herniation and duration from accident to onset of cerebral infarction.

OBSERVATION

All patients were evaluated and treated according to the guidelines for the management of severe

head injury. Neurological assessment was performed using the GCS score, pupil size and reaction. And repeated cns examination by the residents while the patient is in ed was one of the diagnostic criteria for the patient to undergo repeat ct even though there was no decline in gcs of the patient has lead to the diagnosis of acute infarct in post traumatic patient.

CONCLUSION

seven patients presenting to our ED with h/o RTA had a normal CT brain on initial evaluation and within 4-7hours patient had clinical symptoms of hemiplegia and repeat brain imaging post 6 hrs of the initial CT showed acute infarct. HENCE We assessed the practical incidence and risk factors for the development of PTCl in patients with normal CT brain in initial evaluation followed by ED residents to repeat clinical examination and finding out the presence of classical symptoms and signs of CVA which was absent in the initial evaluation

Authors:

Ragavan Dharshana Rajasri (1), Jena Narendra Nath (2)

1. PGYIII, Masters in Emergency Medicine Resident, GWU-USA, Institute of Emergency Medicine, Meenakshi Mission Hospital and Research Center, Madurai, India

2. Director and Head, Institute of Emergency medicine, Meenakshi Mission Hospital and Research Center, Madurai, India

Keywords: Penetrating cardiac injuries, Cardiac tamponade, cardiac arrest, possible embolic stroke

Abstract :

ABSTRACT:

Cardiac tamponade is a life-threatening clinical syndrome that requires timely diagnosis and management. It is caused by an increase in intrapericardial pressure due to the accumulation of blood /pus/ other fluid in the pericardial space compressing the heart and leading to a decrease in cardiac output and shock. The diagnosis of cardiac tamponade is a clinical diagnosis that requires prompt recognition and treatment to prevent cardiovascular collapse and cardiac arrest. The treatment of cardiac tamponade can be performed at the bedside or in the operating room.

CASE REPORT:

A 32 years old male was brought to the emergency department with alleged history of assault by his wife with sharp object to his left chest.

ON EXAMINATION :

Patient was drowsy and oriented.

HR:112/min, BP:80/50mmhg, SPO2:96%RA

CVS: Muffled heart sound, RS: NVBS, No added sounds

P/A: Soft, non tender, CNS: Obeys commands, NFND,

GCS-E3 M6 V5. ECG- Electrical alternans +

LOCAL EXAMINATION:

Stab wound size of 1.5cm over left side of the anterior chest wall.

E-FAST – Positive (pericardial fluid noted with cardiac tamponade in the subxiphoid

view)

TREATMENT GIVEN :

Emergency pericardiocentesis done and aspirated ~20ml of blood. Suddenly patient became unresponsive, carotid pulse not felt, monitor showed pulseless electrical activity . According to ACLS protocol CPR started with 1mg of Inj.adrenaline. ROSC (return of spontaneous circulation) obtained with two cycles of CPR and two doses of Inj.adrenaline 1mg. GCS E1 M5 V2 . Secured airway with endotracheal tube. HR:92/min ,BP:

Not recordable ,SPO2: 100%ETT.

Patient was shifted to OT , **Emergency median sternotomy** done followed by opened the pericardium and relived the tamponade. Patient was hemodynamically improved . Then found to have 2*2cm sized lacerated injury to LV myocardium. Direct suture and closure of LV myocardial bleeder done.

COURSE IN HOSPITAL:

Post operatively patient was hemodynamically stable, weaned off from the ventilator but developed weakness of left lower limb (Power 3/5) . **CT BRAIN done suggestive of Acute non-haemorrhagic infract in left frontal parafalcine region and right cerebellum** . Diagnosed to have “ **Possible embolic stroke**” and started on tablet Warfarin, antibiotics, analgesis and effective physiotherapy. Patient improved, weakness of left lower limb resolved and discharged in good condition .

DIAGNOSIS:

*TRAUMATIC CARDIAC TAMPONADE

*CARDIOGENIC SHOCK

*POST CARDIAC AREEST REVIVAL

*S/P PERICARDIOCENTESIS ,EMERGENCY MEDIAN STERNOTOMY

Penetrating heart injuries are extremely urgent. Normally, there will be a physiologic amount of fluid surrounds the heart within the pericardium. When the volume of fluid builds up fast enough, the chambers of the heart are compressed, and tamponade physiology develops rapidly with much smaller volumes. The classical example is the traumatic cardiac injury resulting in hemo-pericardium. Emergency department resuscitative thoracotomy and the opening of the pericardial sac is therapy that can be used in traumatic arrests with suspected or confirmed cardiac tamponade. These options are preferable to needle pericardiocentesis for traumatic pericardial effusions.

Authors:

M Janarthanan (1), Jena Narendra Nath (2)

1. PGYIII, Masters in Emergency Medicine Resident, GWU-USA, Institute of Emergency Medicine,, Meenakshi Mission Hospital and Research Center, Madurai, India

2. Director and Head , Institute of Emergency Medicine,, Meenakshi Mission Hospital and Research Center, Madurai, India

Keywords: rhabdomyolysis, acute kidney injury, cpk total,

Abstract :

BACKGROUND: Rhabdomyolysis is a clinical syndrome caused by damage of skeletal muscles which results in release of its breakdown products into the circulation, followed by acute kidney injury (AKI) as a severe complication.

A 30 year old male with no known comorbidities was brought to ED with alleged history of assault without any LOC, vomiting, seizures & ENT bleed.

vitals – HR-120/min, BP-120/80, RR-20/min, spo2-96% on RA, CBG-160mg/dl, Temp-102*f. Systemic examination :NORMAL , GCS15/15,

Hb -7.3 , TC- 8600 , **s.urea-253 , s.creatinine-7.6** , k+-4.3 , **cpk total-9380**, urine myoglobin negative, compensated metabolic acidosis.. Left upper limb doppler S/O cellulitis. Right upper limb doppler S/O subcutaneous oedema & no evidence of cellulitis.

DIAGNOSIS - CONTUSION INJURY OF BILATERAL UPPER LIMB WITH IMPENDING COMPARTMENT SYNDROME OF LEFT UPPER LIMB/ RHABDOMYOLYSIS INDUCED AKI

A 33 years old male brought to ED with alleged H/O assault without any LOC , vomiting , seizures & ENT bleed and with no known co morbidities .

Vitals HR-130/min, BP- not recordable, RR-22/ min , spo2- 98%@ HFM , CBG-120mg/dl , Temp-98.4° F. Systemic examination: NORMAL

GCS 15/15 .INITIAL INVESTIGATION: **Hb-9.8,TC-30,900,s.urea-35,s.creatinine-2.5**,k+-3.6,cpk total-12.168,urine myoglobin-negative.ABG reveals mixed acidosis (metabolic & respiratory). BILATERAL LOWER LIMB doppler revealed normal study.

DIAGNOSIS- CONTUSION INJURY OF BILATERAL LOWER LIMBS/ RHABDOMYOLYSIS WITH AKI

THERAPEUTIC APPROACH IN RHABDOMYOLYSIS FOR PREVENTION AND TREATMENT OF ACUTE KIDNEY INJURY:

- 1.early and aggressive fluid resuscitation to restore renal perfusion increase the urine flow is main intervention for preventing and treating AKI .
- 2.alkalinization of urine with sodium bicarbonate.
- 3.forced diuresis with mannitol or loop diuretics.
- 4.treat hyperkalemia with calcium gluconate for cardiac membrane stabilization.
- 5.renal replacement therapy / dialysis .

TREATMENT:For both the patients admission in ICU & In view of elevated creatinine and low urine output, patients underwent regular haemodialysis, antibiotics and other supportive measures with continued serial monitoring of creatinine, cpk total, urine output and electrolytes . Patient were discharged later on in stable condition.

This review provides a comprehensive view of AKI induced by rhabdomyolysis . Thorough knowledge of pathophysiology will lead to new approaches for diagnosis and treatment leading to preservation of kidney.renal replacement methods have a supportive role but they are not first line of treatment for AKI induced rhabdomyolysis , especially in cases of preserved diuresis , the kidney is a miraculous organ but it can be overwhelmed if the threshold is exceeded.we should try to preserve kidney function where possible by looking at whole picture.

#22447 : Magic Mushroom Poisoning – A Rare Case Report

Authors:

Kirubasankaran E (1), George Immanuel J (2), Jena Narendra Nath (3)

1. PGY II, Resident in Masters in Emergency medicine ,GWU- USA,Institute of Emergency medicine , ,Meenakshi mission hospital and research centre, Madurai, India
2. Registrar,Institute of Emergency Medicine,, Meenakshi Mission Hospital and Research Centre, Madurai, India
3. Direct and Head, Institute of Emergency Medicine, ,Meenakshi Mission Hospital and Research Centre, Madurai, India

Keywords: mushroom,toxic,liver failure,seizure

Abstract :**INTRODUCTION:**

This report deals with rare case of magic mushroom poisoning which presents a diagnostic challenge in the emergency department. Today, emergency department physicians have increasing occasions to treat mushroom poisoning. Interest in eating mushrooms has risen dramatically in recent years as part of the back-to-nature and organic food movement. In addition, some people are eating certain mushrooms for their hallucinogenic components, leading to an increase in mushroom poisonings.

CASE DESCRIPTION:

A 23 years old male presented to ED with history of altered mental status and recurrent episodes of seizures for past 10 days for which he was treated conservatively in outside hospital and referred here for further management .Patient has recurrent episodes of seizures in our ED hence patient is intubated in ED with RSI in view of protecting the airway and antiepileptics were given .First set of vitals were BP-110/70 mm hg ,PR-112/min ,temperature was normal ,SpO2-96%, with ETT,CBG -138 mg/dl. Basic blood panel was done which showed S.Urea-40, S.Creatinine and LFT values are elevated total bilirubin-4 ,SGOT-350U/L and SGPT-332U/L.Then CT Brain was done which showed diffuse cerebral edema . Patient was N/K/C/O DM, SHTN, CAD, CKD ,Seizure disorder. Till now reason behind his diffuse cerebral edema and elevated LFT is not known. On repeatedly asking history patients attenders and his friends

relived that 10 days back patient went to kodaikanal and consumed mushrooms from which he was altered .This mushroom is the reason behind the patients signs and symptoms .

CONCLUSION:

Altered mental status and seizures are to be the primary symptoms in magic mushroom poisoning (Psilocybin). It is important for a emergency physicians to be aware of unnatural conditions which cause symptoms like this in normal patients during their adolescent ages and to create awareness among adolascent age group.

#22448 : Trends in chest-compression-only bystander cardiopulmonary resuscitation and neurologically intact survival after pediatric out-of-hospital cardiac arrest in Japan**Authors:**

Yoshikazu Goto (1), Akira Funada (2), Tetsuo Maeda (1), Hirofumi Okada (1), Yumiko Goto (3)

1. Department of Emergency and Critical Care Medicine, Kanazawa University Hospital, Kanazawa, Japan

2. Department of Cardiology, Osaka Saiseikai Senri Hospital, Senri, Japan

3. Department of Cardiology, Yawata Medical Centre, Komatsu, Japan

Keywords: Out-of-hospital cardiac arrest, children, resuscitation, outcome

Abstract :

Background: For out-of-hospital cardiac arrest (OHCA), current cardiopulmonary resuscitation (CPR) guidelines recommend chest compression-only bystander CPR (C-BCPR) for both untrained and trained bystanders unwilling to perform rescue breaths before emergency medical services personnel arrival. However, during 3 consecutive guideline periods, changes in type of BCPR and neurologically intact survival rate are unclear in paediatric OHCA cases.

Purpose: We aimed to determine the change in the rate and type of BCPR in correlation to the 1-month neurologically intact survival and causes of OHCA.

Methods: We reviewed 5461 children with bystander witnessed OHCA included in the All-Japan Utstein-style registry from 2005 to 2017. Patients were divided into 3 groups according to the type of BCPR: no BCPR (NO-BCPR), standard BCPR with rescue breaths (S-BCPR), and C-BCPR. Guideline periods 2005 to 2010 (pre-G2010), 2011 to 2015 (G2010), and 2016 to 2017 (G2015) were used for comparison over time. The study endpoint was 1-month neurologically intact survival (Cerebral Performance Category [CPC] scale 1 or 2; CPC 1–2).

Results: The rates of patients receiving any BCPR and 1-month CPC 1–2 by year significantly increased from 46.2% and 9.4% in 2005 to 61.3% and 15.7% in 2017 (all P for trend <0.0001), respectively. The rates of patients receiving C-BCPR in the pre-G2010 period significantly increased from 21.6% to 35.5% in the G2010 period, and to 40.4% in the G2015 period (P for trend <0.0001); the overall proportion of cases with 1-month CPC 1–2 increased from 9.1% to 10.8% and 14.7%, respectively (P for trend <0.0001). Particularly, in patients receiving C-BCPR, CPC 1–2 rate significantly increased from 9.5% in the pre-G2010 period to 19.0% in the G2015 period (P for trend <0.0001). For all time periods, 1-month CPC 1–2 rate in the S-BCPR (17.2%) cohort was significantly higher than those in the C-BCPR (12.5%) and NO-BCPR (6.4%) cohorts (adjusted odds ratio [aOR] of S-BCPR compared with C-BCPR, 1.59; 95% confidence interval [CI], 1.25–2.01; $P < 0.0001$; compared with NO-BCPR, aOR 2.31; 95% CI, 1.82–2.94; $P < 0.0001$). No significant difference between S-BCPR and C-BCPR was found in 1-month CPC 1–2 rate for patients with non-traumatic origin (17.7% vs. 16.3%; aOR, 1.23, 95% CI, 0.95–1.59, all $P > 0.05$). However, in patients with traumatic origin, S-BCPR was superior to C-BCPR (15.1% vs. 3.4%; aOR, 4.53, 95% CI, 2.39–8.61, all $P < 0.0001$). During the 3 guidelines periods, the CPC 1–2 rate in patients with non-traumatic origin significantly increased from 11.8% to 19.7% (P for trend < 0.0001), but not in patients with traumatic origin (from 4.9% to 4.1%, P for trend = 0.29).

Conclusions: During the 3 guidelines periods, the rate of C-BCPR and 1-month CPC 1–2 increased by approximately 2-fold each over time. C-BCPR was associated with increased odds of 1-month CPC 1–2 similar to S-BCPR for children with non-traumatic origin but not in those with traumatic origin.

Trial Registration / Funding Information (only) :

This work was supported by the Japan Society for the Promotion of Science (KAKENHI Grant Number 18K09999).

#22457 : Against better knowledge: why are infants in the paediatric emergency department still receiving bronchodilators?**Authors:**

Hira Hasan (1), Peter Heinz (2)

1. Cambridge University, n/a, Cambridge, United Kingdom
2. CUHFT, Addenbrooke's Hospital, Cambridge, United Kingdom

Keywords: Bronchiolitis, infants, paediatric emergency department, bronchodilators

Abstract :

Introduction: There is good evidence that bronchodilator treatment of infants with bronchiolitis carries no significant benefit. The same applies to performing chest x-rays and starting antibiotics. Despite clear guidance from the National Institute for Health and Care Excellence (NICE, NG9) this continues to be common practice in paediatric emergency departments and in this qualitative study we tried to explore the reasons behind this.

Methods: All infants (aged less than 12 months) with bronchiolitis severe enough to require inpatient admission from the paediatric emergency department were identified from the electronic medical record system (EPIC) and confirmed as meeting inclusion criteria. This was limited to infants presenting during the month of December 2019. The individual patient notes were assessed for investigations, bronchodilator therapy and other therapeutic interventions including antibiotics and respiratory support. The ordering physician was identified. A non-validated, anonymised questionnaire was used, describing a common bronchiolitis scenario, exploring physician's attitudes towards investigations and therapeutic interventions and their knowledge of current guidance.

Results: 129 infants were identified of which 80 fulfilled the inclusion criteria. Ages ranged from 10 days to 11 months (mean 4.3 months, median 3.5 months). 73 infants had the diagnosis confirmed by virus identification, 7 patients were diagnosed on clinical grounds with no alternative diagnosis. 13 patients (16.25%) had a chest x-ray, the same number received antibiotic treatment. 11 patients (13.75%) were given bronchodilators. Ordering physicians included all levels of seniority, ED physicians as well as paediatricians based in the paediatric emergency department. All were aware of the NICE recommendations in relation to the management of infants with bronchiolitis. The main drivers behind ordering chest x-rays and starting antibiotics (usually as part of a septic screen) were unwell appearing children, high fevers and pre-existing medical conditions (especially cardiac and cystic fibrosis). Physicians felt more inclined to trial bronchodilators in infants at the older end of the age range, with evidence of previous positive response to bronchodilators and in infants presenting at the more severe end of presentation, especially in relation to perceived work of breathing.

Conclusion and recommendation: Despite lacking support by the NICE bronchiolitis guideline, infants are submitted to investigations and treatment by paediatric ED physicians, some of whom are very experienced and fully aware of the current guidance. It is plausible that there may well be sub-groups of infants with bronchiolitis that may benefit from these interventions and further research focussing on these specific populations would be welcome. Other factors influencing physicians' decision making like 'ill appearance' or 'increased work of breathing' would benefit from becoming part of more formalised, validated and quantifiable assessment tools like Paediatric Early Warning or Severity of Illness Scores.

Trial Registration / Funding Information (only) :

This was part of a service development project, hence neither ethical approval nor funding was required or accessed.

#22492 : External validation of a field termination-of-resuscitation rule for refractory out-of-hospital cardiac arrests in Japan**Authors:**

Yoshikazu Goto (1), Akira Funada (2), Tetsuo Maeda (1), Hirofumi Okada (1), Yumiko Goto (3)

1. Department of Emergency and Critical Care Medicine, Kanazawa University Hospital, Kanazawa, Japan
2. Department of Cardiology, Osaka Saiseikai Senri Hospital, Senri, Japan
3. Department of Cardiology, Yawata Medical Centre, Komatsu, Japan

Keywords: Out-of-hospital cardiac arrest, resuscitation, termination of resuscitation

Abstract :

Background: A universal basic life support termination-of-resuscitation (BLS-TOR) rule was developed to identify patients with out-of-hospital cardiac arrest (OHCA) eligible for field termination of cardiopulmonary resuscitation (CPR). In Japan, however, emergency medical service (EMS) providers are not allowed field termination of CPR and must transport all patients with OHCA to hospitals, regardless of return of spontaneous circulation (ROSC). Therefore, we previously developed a Japanese TOR (JP-TOR) rule in the field for refractory OHCA using data from the All-Japan Utstein registry between 2011 and 2015, when CPR was performed according to the 2010 guidelines. The JP-TOR rule recommends CPR termination when patients meet all the following criteria: initial asystole, unwitnessed arrest, age ≥ 81 years, no bystander interventions before EMS arrival, and no ROSC after EMS-initiated CPR for 14 min.

Purpose: To validate the JP-TOR rule using more recent data where CPR was performed according to the 2015 guidelines, comparing the relevance of JP-TOR rule with the BLS-TOR rule, which consists of the following criteria: no prehospital ROSC after 6-min EMS-initiated CPR, arrest unwitnessed by EMS providers, and no shock received.

Methods: We analysed the records of 242,184 patients (age ≥ 18 years) who experienced OHCA treated by EMS providers. Data were obtained from a prospectively recorded Japanese nationwide Utstein-style database from 2016 to 2017. The primary endpoints were specificity and positive predictive value (PPV) for predicting the 1-month mortality after OHCA with the JP-TOR and BLS-TOR rules.

Results: The overall 1-month survival rate was 5.3% (12,847/242,184). The proportions of patients with OHCA fulfilled the JP-TOR and BLS-TOR criteria were 10.4% and 89.3%, respectively. The specificity and PPV of the JP-TOR and BLS-TOR rules for predicting 1-month mortality were 99.5% (95% confidence interval [CI], 99.4%–99.5%) and 99.8% (95% CI, 99.7%–99.8%) and 44.7% (95% CI, 43.8%–45.5%) and 96.7% (95% CI, 96.6%–96.8%), respectively.

Conclusions: The JP-TOR rule for EMS providers treating patients with OHCA in the field was successfully validated using more recent data from a Japanese registry where CPR was performed according to the 2015 guidelines. The JP-TOR rule was superior to the BLS-TOR rule in Japanese EMS systems, having both high specificity and PPV of $>99\%$ for predicting 1-month mortality. The JP-TOR rule may help EMS providers decide whether to terminate resuscitation efforts for unresuscitable patients with OHCA in the field. Prospective validation studies and establishment of prehospital EMS protocol are required before implementing this rule in Japan.

Trial Registration / Funding Information (only) :

This work was supported by the Japan Society for the Promotion of Science (KAKENHI Grant Number 18K09999).

#22493 : Time boundaries of three-phase time-sensitive model for ventricular fibrillation cardiac arrest**Authors:**

Yoshikazu Goto (1), Akira Funada (2), Tetsuo Maeda (1), Hirofumi Okada (1), Yumiko Goto (3)

1. Department of Emergency and Critical Care Medicine, Kanazawa University Hospital, Kanazawa, Japan
2. Department of Cardiology, Osaka Saiseikai Senri Hospital, Senri, Japan
3. Department of Cardiology, Yawata Medical Centre, Komatsu, Japan

Keywords: Out-of-hospital cardiac arrest, resuscitation, ventricular fibrillation

Abstract :

Background: Recent clinical evidence has suggested that the pathophysiology of ventricular fibrillation (VF) cardiac arrest may consist of three time-sensitive phases, namely electrical, circulatory, and metabolic. According to this model of cardiopulmonary resuscitation (CPR), the optimal treatment of cardiac arrest is phase-specific. The potential survival benefit of bystander cardiopulmonary resuscitation (BCPR) depends in part on ischemic time (i.e., the collapse-to-shock interval), with the greatest benefit occurring during the circulatory (second) phase. However, the time boundaries between phases are not precisely defined in the current literature.

Purpose: The purpose of the present study was to determine the time boundaries of the three-phase time-sensitive model for VF cardiac arrest.

Methods: We reviewed 20,741 adult patients with initial VF after witnessed out-of-hospital cardiac arrest from a presumed cardiac origin who were included in the All-Japan Utstein-style registry from 2013 to 2017. We excluded patients who underwent bystander defibrillation prior to arrival of emergency medical services personnel. The study end point was 1-month neurologically intact survival (Cerebral Performance Category scale 1 or 2). Collapse-to-shock interval was defined as the time from collapse to first shock delivery by emergency medical services personnel. Patients were divided into two groups, BCPR (n = 11,606, 56.0%) and non-BCPR (n = 9135, 44.0%), according to whether they had received BCPR or not.

Results: The rate of 1-month neurologically intact survival in the BCPR group was significantly higher than that in the non-BCPR group (27.9% [3237/11,606] vs 17.9% [1632/9135], $P < 0.0001$; adjusted odds ratio [OR], 1.90; 95% confidence interval [CI], 1.75–2.07; $P < 0.0001$). Overall, increased collapse-to-shock interval was associated with significantly decreased adjusted odds of 1-month neurologically intact survival (adjusted OR for each 1-minute increase, 0.94; 95% CI, 0.93–0.95; $P < 0.0001$). In the BCPR group, the ranges of collapse-to-shock interval that were associated with increased adjusted 1-month neurologically intact survival were from 7 minutes (adjusted OR, 1.95; 95% CI, 1.44–2.63; $P < 0.0001$) to 17 minutes (adjusted OR, 2.82; 95% CI, 1.62–4.91; $P = 0.0002$) as compared with those in the non-BCPR group. However, the increase in neurologically intact survival of the BCPR group became statistically insignificant as compared with that of the non-BCPR group when the collapse-to-shock interval was outside these ranges.

Conclusions: The above-mentioned findings suggest that the time boundaries of the three-phase time-sensitive model for VF cardiac arrest may be as follows: electrical phase, from collapse to 17 minutes onward from collapse.

Trial Registration / Funding Information (only) :

This work was supported by the Japan Society for the Promotion of Science (KAKENHI Grant Number 18K09999).

#22494 : Estimation of no-flow duration and survival in patients with an initial shockable rhythm after out-of-hospital cardiac arrest**Authors:**

Yoshikazu Goto (1), Akira Funada (2), Tetsuo Maeda (1), Hirofumi Okada (1), Yumiko Goto (3)

1. Department of Emergency and Critical Care Medicine, Kanazawa University Hospital, Kanazawa, Japan
2. Department of Cardiology, Osaka Saiseikai Senri Hospital, Senri, Japan
3. Department of Cardiology, Yawata Medical Centre, Komatsu, Japan

Keywords: Out-of-hospital cardiac arrest, resuscitation, ventricular fibrillation

Abstract :

Background: In patients with unwitnessed out-of-hospital cardiac arrest (OHCA), the actual no-flow duration (the time with no organ perfusion) is unclear. However, when these patients have a shockable rhythm as an initial recorded rhythm, the no-flow duration may be relatively short as compared with other initial rhythms, and some patients can obtain a good functional outcome after OHCA.

Purpose: The purpose of the present study was to estimate the no-flow duration and to determine the relationship between no-flow duration and neurologically intact survival in patients with an initial shockable rhythm after OHCA.

Methods: We reviewed 82,464 patients with OHCA (aged ≥ 18 years, non-traumatic, witnessed, and without any bystander interventions) who were included in the All-Japan Utstein-style registry from 2013 to 2017. The study end point was 1-month neurologically intact survival (Cerebral Performance Category scale 1 or 2). No-flow duration was defined as the time from emergency call to emergency medical services (EMS) arrival at the patient site.

Results: The rate of 1-month neurologically intact survival in the patients with an initial shockable rhythm ($n = 10,384$, 12.6% of overall patients) was 16.5% (1718/10,384). No-flow duration was significantly and inversely associated with 1-month neurologically intact survival (adjusted odds ratios for 1-minute increments: 0.85, 95% confidence interval: 0.84–0.86). The proportion of patients with a shockable rhythm to the overall patients (y , %) had a high correlational relationship with no-flow duration (x , min), depicted by $y = 21.0 - 0.95 \times x$, $R^2 = 0.935$. In this analytical model, the number of patients with shockable rhythm reached null at 22 minutes of no-flow duration. The no-flow durations, beyond which the chance for initial shockable rhythm diminished to $<10\%$, $<5\%$, and $<1\%$, were 12, 13, and 17 minutes, respectively. The rate of neurologically intact survival in the patients with shockable rhythm (y , %) and no-flow duration (x , min) were also found to have a strong correlation, depicted by $y = 0.16 \times x^2 - 5.12 \times x + 45.0$, $R^2 = 0.907$. The no-flow durations, beyond which the chance for 1-month neurologically intact survival diminished to $<10\%$, $<5\%$, and $<1\%$, were 10, 11, and 15 minutes, respectively.

Conclusions: In OHCA patients without any bystander interventions before EMS personnel arrival, when a shockable rhythm is recorded by EMS personnel as an initial rhythm, the no-flow duration after cardiac arrest is highly likely to be

Trial Registration / Funding Information (only) :

This work was supported by the Japan Society for the Promotion of Science (KAKENHI Grant Number 18K09999).

#22500 : Electrical Storm : The Double Down - A Case Report

Authors:

FATIN IZZATI MOHAMMED AZMI (1), FATIN IZZATI MOHAMMED AZMI (1), ZATUL RATHIAH SULONG @ ABDUL RAZAK (1), HAFIDAHWATI HAMAD @ AHMAD (1), FATIN MAISARAH ABDULLAH (1)

1. EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH NUR ZAHIRAH, MALAYSIA, KUALA TERENGGANU, Malaysia

Keywords: Dual sequential defibrillation, Refractory Ventricular Fibrillation, Out of hospital cardiac arrest, advanced cardiac life support, cardiopulmonary resuscitation

Abstract :**ABSTRACT****Introduction:**

Electrical Storm or Refractory Ventricular Fibrillation (RVF) is defined as ventricular fibrillation that resists, three/more defibrillation attempts, and the mortality is up to 97%. Advanced Cardiac Life Support (ACLS) guidelines help with clinical decisions while managing cardiac arrest patients but provide no recommendations for RVF. The Double Down Shock or Dual Sequential Defibrillation (DSD) is described as a viable option for RVF patients. We present a case of RVF using DSD once the ACLS algorithm pathways have been exhausted.

Case Report:

A 52-year-old Malay man with underlying Ischemic Heart Disease sustained a witnessed out-of-hospital cardiac arrest (OHCA). Bystander Cardiopulmonary Resuscitation (CPR) was performed by his relatives and took over by paramedics. Initial Automated External Defibrillator (AED) detected shockable rhythm. At hospital, he was promptly intubated and received multiple rounds of epinephrine, antiarrhythmic drugs and conventional defibrillation for persistent shockable rhythm. He went into RVF and decided to put on DSD after the 6th shock, however despite 46 minutes of resuscitation with total shock of 23 times, he was not reverted, and resuscitation was terminated.

Discussion:

Cardiac arrest due to RVF is a rare, life-threatening condition, seen in less than 10% of OHCA's. DSD is the process of near simultaneous discharge of two separate defibrillators with differing pad placement on a chest (conventional right upper-left lower orientation and additional anterior-posterior orientation) to terminate RVF. This patient showed a successful response throughout the initial part of resuscitation particularly after DSD was attempted which proved that summation of energy levels can increase the success rate evidenced by persistence shockable rhythm all the way through resuscitation. Various mechanisms hypothesized that change in vector with double sequential shock over different pathways depolarize a larger mass of myocardium, decrease both peak voltage and total energy required. The double-sequential shocks reduced the VF threshold, may override the relative refractory period of cardiac muscle, or possibly decrease transthoracic impedance, leading to a more effective electrical delivery. Change in vectors also played a factor, effectively using the first shock to "set up" for the subsequent shock. However, the success rate is up to 10.4% but only up to a plateau then, it drops sharply.

Conclusion:

The addition of DSD as part of a resuscitation effort may be a valid recommendation for RVF patients. However, there are limited studies and little clinical evidence to support the benefit of DSD on previously ischaemic heart. The variable outcomes from utilizing DSD as a part of ACLS guidelines with variable patient backgrounds limits its usage on these patients.

Keywords:

Dual sequential defibrillations, refractory ventricular fibrillation, out of hospital cardiac arrest, advanced cardiac life support, cardiopulmonary resuscitation

Attachment: EUSEM - ELECTRICAL STORM.docx

#22505 : Comparison of the Shock Index, Modified Shock Index and Age Shock Index for predicting 7-days mortality in non-traumatic patients in ambulance: a prospective, multicenter study**Authors:**

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Carlos Del Pozo Vegas (3), Miguel Ángel Castro Villamor (4), Juan Francisco Delgado Benito (5), Ancor Sanz García (6), Leonardo Rodrigues (7), Elena Medina Lozano (8), Germán Fernández Bayón (3), Ana Valderrey Mielgo (3), Juan Carlos Sánchez Rodríguez (2), Jesús Álvarez Manzanares (2), Virginia Carbajosa Rodríguez (2), Pablo Del Brio Ibañez (2), Laura Natividad Fadrique Millán (2), Rubén Herrán-Monge (9), Iratxe Moro Mangas (3), Raquel María Portillo Rubiales (10)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
4. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
5. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Salamanca, Spain
6. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
7. Surgery Department, Hospital Sanatorio de Luanda, Luanda, Angola
8. Unidad Móvil de Emergencias, Ambuibérica, Valladolid, Spain
9. ICU, Hospital Universitario Río Hortega, Valladolid, Spain
10. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain

Keywords: Shock, Emergency Medical Services, Mortality, Clinical Deterioration

Abstract :

Background: One of the priorities of health systems is to try to predict the risk in healthy people or with a certain pathology, to detect the risk of deterioration or to suffer from a disease to anticipate complications. The objective of this study is to compare the diagnostic accuracy of the shock index (SI), modified shock index (MSI) and age shock index (ASI) to discriminate mortality at 7-days in non-traumatic patients treated by emergency medical services.

Methods: Multicentric prospective observational longitudinal study, between April 1, 2018 and October 30, 2019. The study was developed on Castilla y León region (Spain). It was considered that a patient fulfilled criteria to be included in the study if he had been attended by Advanced Life Support and transferred to the Emergency Department with principal diagnosis of non-traumatic pathology, and did not meet any exclusion criteria: under 18 years old, cardiorespiratory arrest, exitus, pregnant women, patients with psychiatric pathology or terminal pathology or discharged in situ. Demographic data (age and gender) and clinical observations for calculating scores (heart rate and systolic blood pressure) were collected during the first contact with the patient in prehospital care with LifePAK® 15 monitor (Physio-Control, Inc., Redmond, USA).

At 7 days of the index event, by reviewing the patient's electronic history, hospital admission and 7-day mortality data were obtained.

The main dependent variable was mortality from any cause in the hospital before the first 7-days from the index event.

The area under the curve (AUC) of the receiver operating characteristic (ROC) of the SI, MSI and ASI was calculated in terms of 7-day mortality, and the AUC were compared to each other to see the statistical significance.

Results: a total of 2470 patients were included in our study. The median age was 68 years (IQR: 50-81 years), with 1007 female (40,7%). The 7-day mortality was 7.3% (181 cases).

The AUROC of SI was 0.592 (95%CI:0.54-0.63), of MSI was 0.595 (95%CI:0.55-0.64) and for ASI was 0.669

(95%CI:0.62-0.71) ($p < 0.001$ in all cases).

In the comparison of the curves there were no significant differences between the SI and the MSI ($p > 0.533$), but yes for the ASI with respect to the previous two ($p < 0.001$).

Conclusions: With very simple and accessible parameters in any ambulance, such as age, heart rate and systolic blood pressure, the ASI can be calculated, a cheap, non-invasive score, with a good statistical performance that provides a prognostic orientation about risk of deterioration of non-traumatic patients within 7-days of their prehospital care.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers (reference CEIC: #PI 18-010, #PI 18-895, #PI 2018-10/119, #PI MBCA/dgc and #CEIC 2049). All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) with registration number GRS 1678/A/18 and INT/E/02/19.

#22511 : Lactate and glucose levels at ambulance like predictors of in-hospital early mortality in acute cardiovascular disease: a prospective, multicenter study**Authors:**

Francisco Martín-Rodríguez (1), Carlos Del Pozo Vegas (2), Raúl López-Izquierdo (3), Juan Francisco Delgado Benito (4), Ana Gil Contreras (2), Elena Medina Lozano (5), Irene Sánchez Soberón (6), Ancor Sanz García (7), Ana Belén López Tarazaga (2), Germán Fernández Bayón (2), Laura Natividad Fadrique Millán (3), Miguel Ángel Castro Villamor (8), Leonardo Rodrigues (9), Virginia Carbajosa Rodríguez (3), Tony Giancarlo Vásquez del Águila (2), Iratxe Moro Mangas (2)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
3. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
4. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Salamanca, Spain
5. Unidad Móvil de Emergencias, Ambuibérica, Valladolid, Spain
6. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Valladolid, Spain
7. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
8. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
9. Surgery Department, Hospital Sanatorio de Luanda, Luanda, Angola

Keywords: Prehospital care, Mortality, biomarkers, Decision Making, Sudden death

Abstract :

Background: Acute cardiovascular disease (ACVD) represents the leading cause of mortality in our environment, and especially coronary heart disease. For every 30 minutes of delay in the management of acute myocardial infarction, the one-year mortality rate increases by 7.5%, so time is a determining factor to minimize morbidity and mortality.

The objective of this study is to compare the diagnostic accuracy of two prehospital biomarkers: lactate (pLA) and glucose (pGL) to predict early mortality (less than two-days) in patients with ACVD treated by emergency medical services.

Methods: Multicentric prospective observational longitudinal study, between June 22, 2018 and October 30, 2019. The study was developed on Castilla y León region (Spain). All adult patients with ACVD treated consecutively by the emergency medical services and transferred to the emergency department of their referral hospital were included in the study. Patients who did not require evacuation or discharged in situ, cases with terminal pathologies, pregnant women and cardiorespiratory arrest were excluded.

Demographic data (age and gender) and analytical determinations were obtained by the emergency registered nurse during the first emergency medical services contact with the patient. The FreeStyle Optium Neo device (Abbott Laboratories, Illinois, USA) was used to determine blood glucose values, with a measuring range of 20-500 mgr / dl. The Accutrend Plus device (Roche Diagnostics, Mannheim, Germany), with a measurement range of 0.8-21.7 mmol/L, was used to obtain the lactic acid values. All measuring devices were calibrated every 50 determinations, always by the same researcher, using the Accutrend® BM-Control-Lactate control solution (Roche Diagnostics, Mannheim, Germany).

At 2-days of the index event, by reviewing the patient's electronic history, hospital admission and 2-day mortality data were obtained. The main outcome variable was early hospital mortality (within the first 48 hours) from any cause.

The area under the curve (AUC) of the receiver operating characteristic (ROC) of the pLA and pGL was calculated in terms of 2-day mortality. Youden's test was calculated for the cut-off point with better sensitivity and specificity combined for each biomarker.

Results: a total of 1296 patients with ACVD were included in our study. The median age was 67 years (IQR: 51-81 years), with 504 females (38.8%). The 2-day mortality was 3.85% (50 cases).

The AUROC of pLA was 0.934 (95% CI: 0.88-0.98; $p > 0.001$) and for pGL was 0.636 (95% CI: 0.55-0.72; $p = 0.002$). The cut-off point for the pLA was 4.1 mmol / L with a sensitivity of 0.96 (95% CI: 0.90-1) and a specificity of 0.83 (95% CI: 0.81-0.85)

and for the pGL of 171 mg / dl with a sensitivity of 0.46 (95% CI: 0.32-0.59) and a specificity of 0.79 (95% CI: 0.77-0.82).

Conclusions: Routine use of biomarkers can help stratify the risk of deterioration in patients with ACVD early. The performance of the pLA is excellent, far superior to that offered by the pGL. In view of the data, the determination of the pLA should be a routine procedure in all advanced life support units, providing very useful information about your close prognosis.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers (reference CEIC: #PI 18-010, #PI 18-895, #PI 2018-10/119, #PI MBCA/dgc and #CEIC 2049). All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) with registration number GRS 1678/A/18 and INT/E/02/19.

#22584 : Coexistence of Left Main Coronary Artery and Right Coronary Artery Ostial Stenosis in a Young Lady : A Rare Angiographic Entity - A Case Report**Authors:**

FATIN IZZATI MOHAMMED AZMI (1), ZATUL RATHIAH SULONG @ ABDUL RAZAK (1), HAFIDAHWATI HAMAD @ AHMAD (1), FATIN MAISARAH ABDULLAH (1)

1. EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH NUR ZAHIRAH, MALAYSIA, KUALA TERENGGANU, Malaysia

Keywords: Left main coronary artery, Right coronary artery, Ostial Stenosis, Rare angiographic entity, Left main stem

Abstract :**ABSTRACT****Introduction:**

Left main stem (LMS) disease is associated with significant morbidity and mortality. The classical presentation of LMS includes classical ischaemic chest pain and other prodromal symptoms, however the diagnosis is rather difficult and overlooked in women especially in younger age group due to its rare occurrence as they tend to have atypical presentation. We present a case of a young lady diagnosed as LMS Disease.

Case Report:

A 21-year-old healthy lady presented with history of left sided pricking chest pain for two weeks which aggravated on movement and breathing. One day prior to admission, she developed palpitation, vomiting and failure symptoms. She was tachypneic with poor oxygen saturation. Electrocardiogram (ECG) showed ST elevation on aVR with widespread ST depression at leads I, II, III, aVF, V2-V6. Bedside Echocardiography showed global hypokinesia. She was diagnosed as Left Main Stem Disease with Left Ventricular Failure and started on dual antiplatelet, anticoagulant and diuretics. In ward, she was referred to Institut Jantung Negara (IJN), Percutaneous Coronary Intervention (PCI) done and two stents inserted over ostial Left Main Coronary Artery (LMCA) and Right Coronary Artery (RCA). She is currently on dual antiplatelet therapy for 1 year.

Discussion:

The causes of LMCA Stenosis can be due to atherosclerotic or non-atherosclerotic. Non-atherosclerotic could be secondary to radiation, syphilitic or rheumatoid arthritis, Takayasu's arteritis, aortic valve disease, aortic valve replacement, Kawasaki disease, and injury following coronary intervention. However, atherosclerotic remains the most frequent cause of LMCA Stenosis approximately 2.5%-17.5%. Coexistence of LMCA and RCA occlusion are higher in younger women population approximately 63% with mean age of 43. It is due to different pathophysiology mechanism involved. The difference in vessels anatomy, oestrogen and histological properties of female gender which are more prominent for both LMCA and RCA and higher pressure in aorta causing intimal injury which leads to ostial stenosis. This rare angiographic entity puts women population at high risk of myocardial infarction and fatality. Medical management has little role to play for ostial stenosis. Revascularization, either by surgery or by PCI is the

treatment of choice. In the present day, young women had a lower probability of receiving guideline-based therapies and interventions than young men, including lipid-lowering medications, non-aspirin antiplatelet agents, coronary angiography, and revascularization. Thus, more data are needed to optimize prevention strategies and promote cardiovascular health among young women.

Conclusion:

Diagnostic dilemma in young women with subtle chest pain can be decreased with different approach. ECG and Bedside Echocardiography are the essential modalities to aid in diagnostic evaluation which help in early treatment.

Keywords:

Left main coronary artery, Right coronary artery, Ostial Stenosis, Rare angiographic entity, Left main stem

Attachment: EUSEM - RARE ANGIOGRAPHIC ENTITY.docx

#22585 : Priapism as the Rare Manifestation of Chronic Myeloid Leukemia - A Case Report

Authors:

FATIN IZZATI MOHAMMED AZMI (1), HAFIDAHWATI HAMAD @ AHMAD (1), ZATUL RATHIAH SULONG @ ABDUL RAZAK (1), FATIN MAISARAH ABDULLAH (1)

1. EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH NUR ZAHIRAH, MALAYSIA, KUALA TERENGGANU, Malaysia

Keywords: Andrological Emergency, Priapism, Hyperleucocytosis, Chronic Myeloid Leukemia, Full Blood Picture

Abstract :**ABSTRACT****Introduction :**

Chronic Myeloid Leukemia (CML) is a chronic myeloproliferative disorder and a form of leukemia characterized by the increased and unregulated growth of myeloid cells in the bone marrow and the accumulation of these cells in the blood. Majority of undiagnosed patients may initially present to Primary Health Cares and Emergency Departments (ED) with classical symptoms of anemia, unresolved infections and bleeding tendencies. Priapism is a rare symptom, about 5% of leukemic patients, and is most likely caused by venous obstruction from microemboli/thrombi and hyperviscosity caused by the increased number of circulating leukocytes.

Case Report :

A 26-year-old male presented with priapism to ED of Hospital Sultanah Nur Zahirah, urgent Full Blood Count (FBC) and Full Blood Picture (FBP) taken showed features of underlying hematological malignancy as CML. Prompt referral to surgical team was done and he underwent cavernosal aspiration, which results in pain improvement however there was incomplete relief of erection, and he was immediately transferred to Hospital Raja Perempuan Zainab, Kota Bharu and Distal Corpus Spongiosum was done.

Discussion :

Priapism is an andrological emergency, as the risk of impotence is 50% despite appropriate management. Priapism can either be idiopathic or secondary to several medical conditions including CML. The main pathophysiology behind chronic myeloid leukemia is hyperleukocytosis which results in hyperviscosity that leads to priapism. This condition caused leukostasis and possibly microthrombi in the cavernosal circulation which precipitated priapism. Urgent FBC and FBP are the first diagnostic tools which can be obtained at emergency departments to help narrow down the cause of priapism which demand early intervention and treatment. Characteristic FBC features for diagnosing CML are absolute leukocytosis with a left shift and classic "myelocyte bulge". Prompt urological referral and cavernosal aspiration is important for symptomatic relief and resolution of the obstructed blood flow.

Conclusion :

In general, as priapism is one of the rare manifestations of CML, high index of suspicion is vital once encountered and urgent FBC and peripheral blood smear are the first diagnostic tools in emergency care settings and should be performed immediately to prevent delayed diagnosis and management.

Keywords :

Andrological Emergency, Priapism, Hyperleucocytosis, Chronic Myeloid Leukemia, Full Blood Picture

Attachment: EUSEM - PRIAPISM.docx

Authors:

FATIN IZZATI MOHAMMED AZMI (1), HAFIDAHWATI HAMAD @ AHMAD (1), ZATUL RATHIAH SULONG @ ABDUL RAZAK (1), FATIN MAISARAH ABDULLAH (1)

1. EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH NUR ZAHIRAH, MALAYSIA, KUALA TERENGGANU, Malaysia

Keywords: Traumatic Subarachnoid Haemorrhage, CT Angiography, Saccular Aneurysm, Supracellar Central Cistern, Trauma

Abstract :**ABSTRACT****Introduction:**

Subarachnoid haemorrhage (SAH) refers to extravasation of blood into the subarachnoid space between the pia and arachnoid membranes. Trauma remains the most frequent cause of SAH. The incidence varies from 26-53% among Traumatic Brain Injury (TBI) cases. Nevertheless, ruptured saccular aneurysms are the most common cause for non-traumatic SAH accounting 85% of spontaneous SAH. Additionally, both circumstances are generally appeared as suprasellar cistern with diffuse peripheral extensions on Computed Tomography (CT) resulting in difficulty on distinguishing the probable etiology. We present a case utilizing CT Angiography (CTA) in distinguishing inconclusive SAH.

Case Report:

A 62-year-old lady presented with motor-vehicle accident sustained loss of consciousness and laceration wound over left parietal region with scalp hematoma. Glasgow Coma Scale was 15/15 with normal pupillary reactivity. CT Brain reported SAH seen within Sylvian's fissure, bifrontal lobe, left parietal lobe, basal cisterns and cistern magna with extension to interhemispheric. Clinical assessment however unable to conclude whether SAH was a non-traumatic (prior to accident) or traumatic in origin and put primary disposition and definitive surgical decision in predicament. Hence, CTA was proceeded which confirmed no aneurysm detected.

Discussion:

SAH can be classified into three distinct patterns by anatomic location on unenhanced CT consisting of suprasellar central cisterns with diffuse peripheral extension, perimesencephalic with low basal cisterns and isolated peripheral convexity. Recognizing these patterns facilitates the differential diagnosis. However, challenge in diagnosis (traumatic and non-traumatic SAH) may occur in trauma cases among patients with risk factors of developing aneurysm. Ruptured saccular aneurysm arise from branch point Circle of Willis producing diffuse patterns which also may be a consequence of rotational acceleration in trauma as a result of arterial stretch on unenhanced CT Brain. In such cases, subsequent imaging evaluation particularly CTA has beneficial role to confirm the presence of aneurysm and guide the primary definitive treatment.

Conclusion:

Identifying SAH on inconclusive preceding events is quite challenging. Understanding image findings on unenhanced CT is essential to narrow down the differential diagnosis. CTA is helpful in excluding saccular aneurysm in suspicious occurrences.

Keywords:

Traumatic Subarachnoid Haemorrhage, CT Angiography, Saccular Aneurysm, Supracellar Central Cistern, Trauma

Attachment: EUSEM - SAH.docx

#22587 : Tragedy on Vacation : Survivor of Immersion Pulmonary Edema - A Case Report

Authors:

FATIN IZZATI MOHAMMED AZMI (1), HAFIDAHWATI HAMAD @ AHMAD (1), ZATUL RATHIAH SULONG @ ABDUL RAZAK (1), FATIN MAISARAH ABDULLAH (1)

1. EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH NUR ZAHIRAH, MALAYSIA, KUALA TERENGGANU, Malaysia

Keywords: Immersion Pulmonary Edema, Szpilman Classification, Continuous Positive Airway Pressure, Positive End Expiratory Pressure, Drowning

Abstract :

ABSTRACT

Introduction:

Drowning is a process of experiencing respiratory impairment from submersion or immersion in a liquid. Immersion Pulmonary Edema (IPE) is rare but a potential complication of drowning with incidence of 1.1%. Szpilman developed classification with six grades of severities, treatment recommendations and predictions of mortality. We present a case of an elderly tourist who developed IPE and survived a Grade 6 drowning incident.

Case Report:

A 70-year-old diabetic and hypertensive man was brought unconscious after an episode of drowning at Pulau Redang while snorkelling. He revived after 1 minute of Cardiopulmonary Resuscitation (CPR) initiated by his son at scene and immediately brought to hospital. Upon assessment at red zone, he was tachypnoeic with poor oxygen saturation and fine crepitations all over lungs field requiring Non-Invasive Ventilation (NIV) for 1 hour and subsequently able to wean off oxygen supplement to room air after 10 days of admission with intact neurological outcome.

Discussion:

IPE is caused by aspirated water which leads to surfactant destruction and damage to alveolar-capillary membrane resulting in extravasation of fluid into interstitium (pulmonary edema). The mainstay of treatment are oxygen therapy and mechanical ventilation using Continuous Positive Airway Pressure (CPAP) through judicious use of Positive End Expiratory Pressure (PEEP) which helps improving gas exchange by increasing functional residual capacity, decreasing intrapulmonary shunting, and increasing interstitial pressure. The overall principle of CPAP in IPE is, it reverses the hydrostatic effect from immersion and subsequently decrease the vasoconstriction and central blood pooling. Szpilman further classified IPE into Grade 3 (without hypotension) which emphasis on ventilation and Grade 4 (with hypotension) prioritizing hemodynamic stability with careful breathing monitoring.

Conclusion:

Drowning denotes a preventable tragedy. Maximization of ventilation and oxygen therapy is the basis of managing IPE. Szpilman classification is helpful as instrument to guide appropriate treatment and provide prognostic variables.

Keywords:

Immersion Pulmonary Edema, Szpilman Classification, Continuous Positive Airway Pressure, Positive End Expiratory Pressure, Drowning

Attachment: EUSEM - IMMERSION PULMONARY EDEMA.docx

#22604 : Trauma Induced Coagulopathy Is Related To A More Severe Anatomical Damage**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLATO (4), Cesare Perotti (5), LORENZO COBIANCHI (6), MARIO MOSCONI (7), Guido Forini (8), Matteo Ghiara (8), ELVIS LAFE (9), ANNA SIMONCELLI (10), Alessandra Livraghi (5), SABINO LUZZI (11), MATTIA DEL MAESTRO (12), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (13)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. NEURO RADIOLOGIC, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
10. NEURO RADIOLOGIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
12. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
13. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; anatomical damage

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st Decembe 2018. All patients registered as affected by severe trauma in our Emergency Depatment have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...). We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

More severe anatomical injures have been identified in patients affected by coagulopathy: 21.26% of them presented an ISS>16, compared to the 15.7% of the patients not affected by coagulopathy (p=0.0000). Additionally 22% of patients affected by coagulopathy satisfies the anatomical criteria for the classification of severe trauma, compared to the 10% of patients not affected by coagulopathy.

Besides, the number of involved anatomical districts is higher in patients with trauma induced coagulopathy, which presented with 3 or more injured districts in 47% of the cases, against the 23% of patients without trauma induced coagulopathy ($p=0.000$).

Conclusions: Among patients presenting with severe trauma of the same population (400.000 people ca.) in an Italian Trauma Center of II level, those who at arrival in ED have already developed trauma induced coagulopathy present a higher number of injured anatomical districts and a greater anatomical severity compared to younger subjects despite trauma causes perhaps erroneously considered of lesser entity.

#22605 : Recovery Rate And Hospital Stay Duration For Severe Trauma: A Comparison Between Patients With Trauma Induced Coagulopathy And Patients Without**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SABINO LUZZI (4), LORENZO COBIANCHI (5), MIRKO BELLIATO (6), Cesare Perotti (7), Alessandra Livraghi (7), FABRIZIO CUZZOCREA (8), MARIOMOSCONI (8), Guido Forini (9), Matteo Ghiara (9), ANNASIMONCELLI (10), ELVIS LAFE (11), FEDERICA MANZONI (12), Maria Antonietta Bressan (13), GIORGIO ANTONIO IOTTI (6)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. NEURO RADIODIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. NEURO RADIODIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
12. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
13. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; HOSPITALISATION RATE ; HOSPITAL DURATIONS

Abstract :

Premise and goal: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation.

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...). We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old; Of the patients affected by coagulopathy, 91% satisfied MOI criteria, 22% anatomical criteria and 15% physiopathological criteria.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old; of these patients, 91% satisfied MOI criteria, 10% anatomical criteria, 8% physiopathological criteria.

Conclusions: Our sample population presents a slightly higher rate of patients affected by coagulopathy compared to what currently reported in literature. This is due to the fact that there is no unanimous agreement in literature on the definition of trauma induced coagulopathy. Trauma induced coagulopathy is related to worse outcomes. The following study underlines the importance of having bedside tools to measure coagulopathy parameters, in order to immediately identify those patients who will require more resources (e.g. blood transfusion, hospitalization, etc) in a time dependent pathology with a high mortality rate like severe trauma.

#22606 : Trauma Induced Coagulopathy Is Related To A Higher Number Of Injured Anatomical Districts**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), SABINO LUZZI (4), MATTIA DEL MAESTRO (5), LORENZO COBIANCHI (6), ANNA SIMONCELLI (7), ELVIS LAFE (8), FABRIZIO CUZZOCREA (9), Cesare Perotti (10), Alessandra Livraghi (10), MARIO MOSCONI (9), Guido Forini (11), Matteo Ghiara (11), MIRKO BELLIATO (12), FEDERICA MANZONI (13), GIORGIO ANTONIO IOTTI (12), Maria Antonietta Bressan (14)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. NEURO RADIOLOGIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. NEURO RADIOLOGIC, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
10. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
12. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
13. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
14. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; anatomical damage

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation.

These criteria are distinguished in anatomical and mechanism of injury criteria.

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

The number of anatomical districts involved in severe trauma patients results higher. The percentage of patients affected by coagulopathy presenting with 3 or more injured anatomical districts is 47%, presenting with 4 is 17% as opposed to the percentage of patients not affected by coagulopathy presenting with 3 or more injured anatomical districts of 23% and those with 4 or more of 4%.

Regarding the anatomical districts, the most frequently injured districts in patients with coagulopathy are the head (59%), followed in decreasing order of incidence by: thorax (48.5%), spine (37.5%), lower limbs (27.5%), superior limbs (25%), pelvis (18%), and abdomen (17.5%).

Regarding the anatomical districts, the most frequently injured districts in patients without coagulopathy are, in decreasing order of incidence, thorax (43%), head (37%), spine (32%), inferior limbs (25%), superior limbs (24%), abdomen (14%), and pelvis (12%).

Conclusions: A higher number of involved anatomical districts is associated with a higher chance of severe trauma. Among the anatomical districts, the head is the one most frequently associated to trauma induced coagulopathy.

#22607 : Analysis Of The Causes Of Severe Trauma In The Population With And Without Trauma Induced Coagulopathy**Authors:**

Gabriele Savioli (1), Sarah Macedonio (2), MIRKO BELLIATO (3), FABRIZIO CUZZOCREA (4), Guido Forini (5), Matteo Ghiara (5), FEDERICA MANZONI (6), SABINO LUZZI (7), MATTIA DEL MAESTRO (8), Maria Antonietta Bressan (9), MARIO MOSCONI (4), Cesare Perotti (10), Alessandra Livraghi (10), Iride Francesca Ceresa (11), GIORGIO ANTONIO IOTTI (3)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
3. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
10. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. emergency department, Ospedale Civile, VIGEVANO, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; causes of trauma ; mechanism of trauma

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st Decembre 2018. All patients registered as affected by severe trauma in our Emergency Depatment have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...).

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old; Of the patients affected by coagulopathy, 91% satisfied MOI criteria, 22% anatomical criteria and 15% physiopathological criteria.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old; of these patients, 91% satisfied MOI criteria, 10% anatomical criteria, 8% physiopathological criteria.

Trauma causes among patients affected by coagulopathy are: 68% traffic accident, 8% domestic accident, 3% self inflicted injury, 3% work related injury, 0.5% violence, 5% other.

Trauma causes among patients not affected by coagulopathy are: 77% traffic accident, 8% domestic accident, 2% self inflicted injury, 6% work related injury, 0.3% violence, and 3% other.

Conclusions: Among the vast sample from us considered, there is no significant causative difference between trauma patients who develop trauma induced coagulopathy and those who do not.

#22608 : Shock Index And Its Derivatives Are Related To The Presence Of Coagulopathy In Severe Trauma Patients

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLIATO (4), MARIO MOSCONI (5), Guido Forini (6), LORENZO COBIANCHI (7), MATTIA DEL MAESTRO (8), SABINO LUZZI (9), Alessandra Livraghi (10), Cesare Perotti (10), FEDERICA MANZONI (11), Giuseppina Grugnetti (12), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (13)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
10. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
11. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
12. sitra, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
13. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; shock index

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. Shock Index are a useful tool to quickly assess which patients may present coagulopathy and the necessity for blood transfusion. The goal of this study was to determine if patients with coagulopathy from our population presented altered values of shock index and its derivatives, and which one among them if any had the highest association with coagulopathy.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are distinguished in anatomical and mechanism of injury criteria.

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

Shock Index and its derivatives are all worse in patients with coagulopathy.

Shock Index was more frequently altered in patients with coagulopathy ($p=0.019$). We then stratified the results. We considered S.I. values inferior to 0.7 as indicative of no shock (CLASS I), values between 0.7 and 1 as indicative of minor shock (CLASS II), values between 1 and less than 1.4 as indicative of moderate shock (CLASS III), and values greater than 1.4 as indicative of severe shock (CLASS IV).

Shock Index patient distribution is worse in patients with coagulopathy (COA) compared to patients without coagulopathy (N-COA): CLASS I COA 59.78% vs N-COA 67.53%; CLASS II COA 30.17% vs N-COA 26.2%; CLASS III COA 6.7% vs 2.95% N-COA; CLASS IV 3.35% vs N-COA 1.11%. The stratified Shock Index is significantly higher in patients with coagulopathy ($p=0.016$).

Patients with trauma induced coagulopathy also present in a higher percentage an altered Modified Shock Index (MSI) compared to patients without (9.8% vs 4.76%, Exact Fisher Test of 0.0051).

Patients with trauma induced coagulopathy present more frequently and altered Age Shock Index (>50) compared to patients without (7.84% vs 5.49%, Exact Fisher Test of 0.075).

Conclusions: Shock index and its derivatives proved to be good predictors for coagulopathy in patients with severe trauma, with MSI presenting a higher statistical significance.

#22609 : Trauma Induced Coagulopathy In Severe Trauma: Higher Risk Of Hemodynamic Instability**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLATO (4), LORENZO COBIANCHI (5), SABINO LUZZI (6), ANNA SIMONCELLI (7), MATTIA DEL MAESTRO (8), Cesare Perotti (9), Alessandra Livraghi (9), MARIO MOSCONI (10), Claudio Pavese (11), Guido Forini (12), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (13)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. NEURO RADIODIAGNOSTIC, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
11. Orthopedia, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
12. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
13. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; hemodynamics instability

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present more frequently hemodynamic instability.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation.

These criteria are distinguished in anatomical and mechanism of injury criteria.

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

Among patients affected by Trauma Induced Coagulopathy (TIC) 15% present hemodynamic instability as defined by the American College of Surgeons, while only 8% of patients not affected by coagulopathy are hemodynamically unstable. Patients with TIC are more frequently hypotensive (SBP<110 BPM with $p=0.006$), and with a lower oxygen saturation (SatO₂<95% mmHg with $p=0.007$) when compared to patients without TIC.

Conclusions: Patients with TIC present more frequently hemodynamic instability and compromised vital signs.

#22610 : Bedside Arterial Blood Gas Test: Its Role In Trauma Induced Coagulopathy**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLIATO (4), LORENZO COBIANCHI (5), SABINO LUZZI (6), MATTIA DEL MAESTRO (7), MARIO MOSCONI (8), Guido Forini (9), FEDERICA MANZONI (10), Cesare Perotti (11), Alessandra Livraghi (11), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (12)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Neurosurgery, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
9. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
10. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
11. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
12. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; hemogasanalysis

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...).

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

Patients with Trauma Induced Coagulopathy (TIC) present acidemia in the Arterial Blood Gas test (ABG) more frequently compared to patients without TIC (5.5% vs 1.32% present a pH<7.35; Exact Fisher Test of 0.0142). Patients with TIC present more frequently elevated lactates compared to patients without TIC (29.5% vs 2.32% present with lactates higher than 1.9 mmol/L; Exact Fisher Test of 0.00001). Patients with TIC present more frequently an increased base excess with values lower than -6 compared to patients

without TIC (1.97% vs 0%; Exact Fisher Test of 0.0262).

Conclusions: Patients with TIC present with a higher frequency value alterations in pH, BE and lactates. This is obviously associated with a worse outcome, and underlines the importance of bedside Arterial Blood Gas test, in order to immediately identify the patients who will require a greater amount of resources (e.g. hospitalization, blood transfusion, etc) in a time dependent pathology such as severe trauma.

#22611 : Major Trauma Mortality: Greater Risk In People With Trauma Induced Coagulopathy**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLATO (4), Guido Forini (5), Matteo Ghiara (5), MARIO MOSCONI (6), FEDERICA MANZONI (7), Cesare Perotti (8), Alessandra Livraghi (8), Maria Antonietta Bressan (9), GIORGIO ANTONIO IOTTI (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. orthopaedics, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
6. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; mortality

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of major trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present an increased mortality.

Methods: We conducted a monocenter prospective observational study involving all patients affected by major trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation.

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...).

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total. 204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old; Of the patients affected by coagulopathy, 91% satisfied MOI criteria, 22% anatomical criteria and 15% physiopathological criteria. 299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old; of these patients, 91% satisfied MOI criteria, 10% anatomical criteria, 8% physiopathological criteria. Mortality resulted higher in patients with coagulopathy than in patients without (3.92% vs 0.98%).

#22613 : Developing Trauma Induced Coagulopathy Increases The Necessity For Blood Transfusions**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLIATO (4), LORENZO COBIANCHI (5), Alessandra Livraghi (6), Cesare Perotti (6), FEDERICA MANZONI (7), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (8)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
7. Clinical Epidemiology and Biometry Unit, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
8. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; hemotrasfusion

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. Goal of this study is to determine if patients presenting with trauma induced coagulopathy (TIC) were also more frequently affected by greater hemodynamic instability.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are distinguished in anatomical and mechanism of injury criteria.

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

In our population, the incidence of hemodynamic instability as defined by the American College of Surgeons is greater in the population with coagulopathy than without (15% vs 8%).

Patients affected by TIC have greater need for blood transfusion compared to patients without TIC. This is valid both for blood transfusions at arrival to the ED (8.5% vs 3.3%; $p=0.028$) and for blood transfusions required during hospital stay (11.32% vs 4%; $p=0.016$).

Conclusions: Among patients presenting with severe trauma within the same population (400.000 people ca.) in an Italian Trauma Center of II level, those who at arrival in ED have already developed trauma

induced coagulopathy have a greater necessity for blood transfusions in comparison with the patients without TIC.

#22614 : Undertriage And Overtriage In Severe Trauma: A Closeup On Patients With Trauma Induced Coagulopathy At Arrivale To The ED**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), Sarah Macedonio (3), MIRKO BELLIATO (4), LORENZO COBIANCHI (5), MARIO MOSCONI (6), Cesare Perotti (7), Alessandra Livraghi (7), FABIO SCIUTTI (4), Claudio Pavesi (8), SEBASTIANO GEROSA (3), GIORGIO ANTONIO IOTTI (4), Maria Antonietta Bressan (9)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. INTENSIVE CARE UNIT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
5. SURGERY, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
6. orthopaedics, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
7. Emotrasfusionale, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
8. Orthopedia, IRCCS POLICLINICO SAN MATTEO, Pavia, Italy
9. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: major trauma; trauma coagulopathy; emergency room; trauma center ; undertriage ; overtriage

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy are assessed correctly or if they incur a greater risk of undertriage in comparison with patients without coagulopathy (N-COA).

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation...

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...). We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old.

Patients with coagulopathy (COA) were assigned a red code for priority to the visit in 78% of the cases, while the other 22% received a code yellow. In 60% of the cases the hospital Trauma Team had been activated.

Patients without coagulopathy (N-COA) were assigned a red code for priority to the visit in 85% of the cases, while the other 15% received a code yellow. In 51% of the cases the hospital Trauma TEam had been activated. The COA patients presented more often with hemodynamic instability compared N-COA (15% vs

8%); similarly COA patients presented more frequently and ISS>15 compared to N-COA (15% vs 8%). The undertriage calculated with the modified Cribari method was 21% in the COA patients in comparison with 29% in the N-COA patients.

Conclusions: Among patients with severe trauma, COA patients are more precisely screened, as desirable given the greater severity; this is most likely due to their more unstable clinical conditions

#22623 : Two Cases of Ingestion of Radiolucent Dentures

Authors:

Yeu Jye Pang (1), Janath Wijesinghe (2)

1. , Kettering, United Kingdom

2. Emergency Department , Kettering General Hospital, Kettering, United Kingdom

Keywords: Radiolucent denture, denture ingestion

Abstract :

Consent obtained from both cases.

Brief clinical history

Two cases of accidental ingestion of dentures were seen in the Emergency Department. The first case was a 40 year old female who presented with a vague history of missing dentures, discomfort from the throat to epigastric region and discomfort in swallowing. Oral examination was unremarkable. There was mild tenderness of the epigastric region. Chest and abdominal x-rays showed no foreign bodies. Patient was discharged home, but returned after 72 hours with ongoing discomfort and one episode of vomiting with speckles of blood. Urgent endoscopy was performed which revealed a denture in the lower third of the oesophagus.

The second case was a 77 year old female who gave a history of accidental ingestion of her top denture who also presented with discomfort of the abdomen. Chest and abdominal x-rays were unremarkable. A subsequent CT abdomen revealed a denture in the stomach. Endoscopy was performed however the denture was not present in the stomach. It was suggested that the denture had likely passed through the stomach. She was discharged home with advice to return if any concerns.

Misleading elements

Impacted dental prosthesis accounts for 11.5% of ingested foreign bodies (Abdullah et al., 1998). Complications associated with such ingestion can vary in severity, ranging from pain to necrosis, perforation, bowel obstruction, bleeding or penetration of neighbouring organs. Most dentures are radiolucent, thus not visible on plain radiographs. This may be misleading and delay diagnosis in patients with accidental ingestion, especially if clinicians are not aware of this. As patients may present with vague, nonspecific symptoms following accidental ingestion of dental plates, this can create even more difficulty in diagnosis.

Helpful details

Most dental prostheses are radiolucent, therefore plain radiographs cannot exclude ingestion of dentures unless they have wire metal attachments. In cases of denture ingestion, it is important to assess and manage predisposing risk factors (eg. seizures, trauma, fitting of dentures) to avoid further future incidences. Secondly, the site of impaction needs to be identified to assess for complications.

Although plain radiographs are not helpful in identifying the presence of dental prostheses, they can be beneficial in recognising complications, such as bowel obstruction, or emphysema of soft tissues of the neck. Other useful imaging modalities include CT and MRI.

Management depends on the level of impaction. Endoscopy is the gold standard for removal of upper gastrointestinal impactions. A wait and watch approach is generally preferred for lower gastrointestinal impactions unless there are complications which require surgical intervention.

Differentials and actual diagnosis

Actual diagnoses in both cases were ingestion of dental prostheses. Differential diagnoses to consider include GORD (gastro-oesophageal reflux disease).

What is the educational and/or clinical relevance of the case/

Denture prostheses are mostly radiolucent thus are not seen on plain radiographs causing difficulties and delays in diagnosis. Without prompt diagnosis and management, ingested dental plates can cause serious and life-threatening complications.

Even in the absence of radiological abnormalities, patients with symptoms suggestive of foreign body ingestion should be referred urgently to ENT/Gastroenterology.

#22647 : Prehospital management of traumatic brain injury in kairouan, Tunisia: A seven year retrospective study**Authors:**

sara chaouch (1), Imen Ketata (2), Haouas Wiem (2), Chafiaa Bouhamed (3)

1. urgence Ibn Eljazzar Kairouan, faculté de médecine de Monastir, Monastir, Tunisia
2. urgence Ibn Eljazzar Kairouan, faculté de médecine de Monastir, monastir, Tunisia
3. urgence Ibn Eljazzar Kairouan, faculté de médecine de Monastir, kairouan, Tunisia

Keywords: Trauma, Head, Brain-injury, Emergency Medical Services, Patient care management

Abstract :

Background: Traumatic brain injury (TBI) is a critical health problem worldwide. The prognosis of TBIs is directly correlated with the precocity and quality of the prehospital management.

Objectives: The aims of this study were to evaluate the epidemiological data and analyze the prehospital management of TBI patients in the Kairouan, and compare the results obtained to those identified in literature review and major guidelines.

Methods: A retrospective study of 147 injured from January 1st 2011 until December 31 st 2017 and managed by the SMUR unit of Kairouan in Tunisia.

Results: The mean age was 35.3 years. The male to female ratio was 4:1. 56% of the accidents occurred in rural areas. The commonest causes were car accidents (64.6%) followed by falls (11.6%). Motorcyclists were the most vulnerable group of road users (50.5%). Average response time was 26 minutes. SpO₂ was assessed in 98.6% of the cases, and hypoxia occurred in 13.8% of the cases. Endotracheal intubation was performed in 1.1% of patients with mild TBI, 66.7% with moderate TBI, and 92.5% with severe TBI. Blood pressure was assessed in 98% of the cases. Fluid resuscitation was used in 79.6% of the cases and the majority of patients (88.9%) received normal saline. Vasoactive drugs were used in 9.5% of patients. Head injury was mild in 64.6% of patients, moderate in 8.2%, and severe in 27.2%. 60.5% of patients had multiple injuries and the upper limbs were injured in 50.3% of the cases. 98.6% of the patients were successfully transported to hospital while 1.4% deceased. 22.4% had a CT scan and abdominal CT findings were seen in 60.6% of the cases. The most common findings were cerebral contusions (36.4%), subarachnoid hemorrhage (33.3%), and skull fractures (12.1%). The severity of TBI appears to be influenced by rural environment ($p=0.16$), accident involving motorcycles or bicycles ($p=0.045$), a response time that is longer than 60 minutes ($p=0.006$) and an associated extremity injuries ($p=0.045$).

Conclusion: These results may contribute to the ongoing debate on the optimal prehospital treatment of TBI patients. Given the proximity to the time of impact, advances in prehospital practice are a key target for further improvements in long-term functional outcomes following TBI. Further research is needed to identify the effect of different treatment protocols on patient's safety and outcome.

#22648 : Survival of cardiac arrest after 43 min of resuscitation

Authors:

Ghaith Zaatari (1), Ramzi Nakhle (2), Mariana Helou (2)

1. Postdoctoral Research Associate, University of Miami Miller school of medicine, Florida, USA
2. Department of Emergency Medicine, Lebanese American University Medical Center, Beirut, Lebanon

Keywords: Cardiopulmonary resuscitation, Cardiac arrest, Survival

Abstract :

Out of hospital cardiac arrest have usually poor outcomes. Data reported about survival to hospital discharge varies from one country to another, from 0.3% in Detroit to 20% in Slovenia. The survival rate is 23.8% to the time of hospital admission and 7.6% to hospital discharge. However, good recovery after prolonged resuscitation have been documented. We report here a case of a young male with cardiac arrest, resuscitated for 43 minutes, discharged at day 54 from the hospital with good neurologic outcome.

In September 17, 2018, a 37 year old male was brought to the Emergency department by a private car in cardiac arrest. Friends reported that he complained some minutes ago of headache and neck pain, then he collapsed. They brought him directly, no basic life support was done. Cardiopulmonary resuscitation was started immediately at 17:15. Monitor showed asystole. The resuscitation was done in accordance with Advanced Cardiac Life Support guidelines. After 3 cycles, the rhythm changed to Ventricular Fibrillation. Patient received a total of 7 electric choc and 14 mg of epinephrine. At 17:58, patient was in ROSC (Return of spontaneous circulation). First EKG done showed mild ST elevation inferolateral. Patient transferred to CT scan angiogram brain and chest. Results were normal. Patient received aspirin, ticagrelor and enoxaparin, then transferred to the Cardiac Cath Unit. A moderate plaque on the Left Anterior Descending artery was seen. Patient transferred to the Intensive Care Unit. Cardiac ultrasound showed septo-apical dyskinesia with infero-lateral hypokinesia, and an impaired left ventricular systolic function, Ejection Fraction 40%. His stay was complicated by seizures and an acute kidney injury. Brain MRI and EEG showed severe diffuse encephalopathy. Tracheostomy was done on 18/10/2018 and removed on 7/11/2018. Percutaneous endoscopic gastrostomy PEG inserted on 5/11/2018. Patient was discharged home on 9/11/2018 after 54 days of stay in the hospital. Patient at this time was conscious, cooperative. He was not adequately oriented. He was able to move his 4 limbs, and able to walk with an unsteady gait. He left home with a PEG in place, and adequate education was given to the family concerning his case.

Cases with prolonged resuscitation have been discussed over the literature. The duration of cardiac resuscitation is a major predictor of survival after cardiac arrest. However, many other factors are involved: duration of the arrest, the type of arrhythmia, Basic life support within 3 min, age younger than 70 years old and the immediate survival. Despite low survival rate, cases of successful resuscitation after prolonged cardiac arrest have been reported. Our patient had witnessed cardiac arrest with rapid transfer to the hospital. Although CPR wasn't initiated by

bystanders, patient was in asystole on arrival, and CPR continued for 43 minutes, our patient went into ROSC at minute 43, and was discharged with good neurologic outcome.

#22650 : Left without being seen: a quality indicator in the emergency department**Authors:**

Rafael Kneuts (1)

1. Emergency, UZ Brussel, Jette, Belgium

Keywords: emergency department, left without being seen

Abstract :

Left without being seen: a quality indicator in the emergency department

Rafael Kneuts, Inge Roggen, Ives Hubloue

Abstract

Background: Patients leaving the emergency department (ED) without being seen (LWBS) by a physician are a worldwide known phenomenon. These patients represent 0.36 to 15% of the total number of patients visiting the ED, depending on the region and the settings of the ED. We wanted to identify the prevalence and possible causes of this phenomenon in a large tertiary ED, with 75000 yearly visits.

Methods: A prospective study was conducted with patients of one large tertiary ED. Between 01/06/2018 and 30/11/2018, patients who had left the ED prematurely were contacted by phone, one week after their ED visit. A standardised questionnaire was used to conduct a phone survey. Additional information was acquired from the patient's medical record. Statistical analysis was performed using MedCalc® version 18.11.3 (MedCalc Software bvba, Mariakerke, Belgium). All data are presented as mean \pm standard deviation (SD) or as median (range), when not normally distributed. D'Agostino-Pearson K-squared test was used for assessing normality of data. Spearman's rho test was used to calculate rank correlation coefficients.

Results: 598 out of 30127 patients (1.98%) left the ED prematurely, of which 509 (85.1%) were contacted by phone and 259 (43.4%) agreed to participate. LWBS patients were significantly younger, and the degree of emergency was significantly lower compared to the general population.

The top 3 of the main reasons why people left the ED prematurely were the waiting time (74.9%), 13.1% suddenly felt better and 13.1% needed to be elsewhere. Of the LWBS patients, 40.1% are admitted between 6 pm and midnight, while only 31.7% of total ED visits take place in that timeframe.

Conclusion: In our ED, patients who LWBS are young adults with less severe diseases as reported in literature. The waiting times are the main reason why patients leave the ED prematurely. Strategies to reduce waiting times or to inform these patients about waiting times could be implemented to reduce LWBS.

Trial Registration / Funding Information (only) :

Trial Registration: No registration. Research conducted for educational purposes. **Funding:** This study did not receive any specific funding. **Ethical approval and informed consent:** The ethical committee of the UZ Brussels approved the study. The approval number is 143201836184. An informed consent was obtained orally.

#22659 : Can the Delta National Early Warning Score 2 predict the need for admission to intensive care unit in acute digestive disease?**Authors:**

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Carlos Del Pozo Vegas (3), Miguel Ángel Castro Villamor (4), Irene Sánchez Soberón (5), Juan Francisco Delgado Benito (6), Añcor Sanz García (7), Leonardo Rodrigues (8), Jesús Álvarez Manzanares (2), Laura Natividad Fadrique Millán (2), Iratxe Moro Mangas (3), Tony Giancarlo Vásquez del Águila (3), Ana Valderrey Mielgo (3), Rubén Herrán-Monge (9), Raquel María Portillo Rubiales (10)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
4. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
5. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Valladolid, Spain
6. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Salamanca, Spain
7. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
8. Surgery Department, Hospital Sanatorio de Luanda, Luanda, Angola
9. ICU, Hospital Universitario Río Hortega, Valladolid, Spain
10. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain

Keywords: Emergency medical service, Early warning score, Critical care, Mortality,

Abstract :

Background: Acute digestive disease (ADD) represents one of the most common causes of care demand, where emergency medical services must decide with very few diagnostic data the need for evacuation and the most appropriate useful center for this urgent pathology. The objective of this study is to compare the diagnostic accuracy of three diagnostic / prognostic tools: the prehospital National Early Warning Score 2 (pNEWS2), the hospital National Early Warning Score 2 (hNEWS2) and the difference between both (dNEWS2) in ADD, to predict the need for admission to the intensive care unit (ICU).

Methods: Multicentric prospective observational longitudinal study, between March 1, 2018 and October 30, 2019. The study was developed on Castilla y León region (Spain). All adult patients with ADD treated consecutively by the emergency medical services and transferred to the emergency department of their referral hospital were included in the study. Patients who did not require evacuation or discharged in situ, cases with terminal pathologies, pregnant women and cardiorespiratory arrest were excluded.

Demographic data (age and gender) and complete set of clinical data for the calculation of pNEWS2 (respiratory rate, oxygen saturation, supplemental oxygen, heart rate, systolic blood pressure, temperature and level of consciousness) were obtained during the first emergency medical services contact with the patient. The second set of data for the calculation of hNEWS2 was collected during the first contact of the patient in the emergency department of the hospital where they were evacuated.

At 7-days of the index event, by reviewing the patient's electronic history, hospital admission, ICU admission and 7-day mortality data were obtained and the dNEWS2 was calculated (difference between hNEWS2 and pNEWS2). The main outcome variable was ICU admission from any cause.

The area under the curve (AUC) of the receiver operating characteristic (ROC) of the pNEWS2, hNEWS2 and dNEWS2 was calculated in terms of ICU admission.

Results: a total of 178 patients with ADD were included in our study. The median age was 67 years (IQR: 50-81 years), with 60 females (33.5%). The ICU admission was 6.7% (12 cases) and the 7-day mortality was 5.01% (9 cases).

The AUROC for pNEWS2 was 0.617 (95% CI: 0.44-0.79 p=0.189), for hNEWS2 was 0.732 (95% CI: 0.56-0.89; p=0.006) and for dNEWS2 was 0.626 (95% CI: 0.45-0.80; p=0.158). The cut-off point for the hNEWS2 was 3 points with a sensitivity of 0.91 (95% CI: 0.76-1) and a specificity of 0.56 (95% CI: 0.49-0.64)

Conclusions: It is still undeniable that NEWS2 carried out in the prehospital scope could offer very useful information, the best results to determine which patient with ADD in need of ICU if obtained for hNEWS2. DNEWS2 could help to understand the evolution of pathology but in the service to detect patients with ADD who need UCI.

The use of the NEWS2 routine at the emergency department entrance gate could be a very powerful tool to help discriminate against patients' gravity.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers (reference CEIC: #PI 18-010, #PI 18-895, #PI 2018-10/119, #PI MBCA/dgc and #CEIC 2049). All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) with registration number GRS 1678/A/18 and INT/E/02/19.

#22664 : Is it necessary to observe patients treated with Anticoagulants or Antiplatelet therapy after suffering a mild traumatic brain injury in the emergency ward?

Authors:

Martínez Rivas Juan José (1), Planells Gemma (1), Rodríguez Lucas Fernando (1), Corrales Denis (1), Bustamante Marco (1), Quillama Elida (1), Mandujano Jannet (1)

1. Emergency Ward, General Hospital of Granollers, Granollers, Spain

Keywords: MTBI, VKAs, DOACs, CT, EW, ASA.

Abstract :

Background: Mild traumatic brain injuries are one of the most prevalent consultations in the emergency ward. Much has been written about moderate and grave cases; however, not much about the management of the mild traumatic brain injuries, probably due to its apparent insignificance, has lagged expert opinions instead of scientific evidence. An example is the observation that patients receiving anticoagulants and antiplatelet therapy should remain in emergency ward. The objective of our study is to know the necessary observation time to discards safe, patients treated with anticoagulants or antiplatelet therapy after suffering mild traumatic brain injuries.

Methods: A retrospective and observational study with 3-month follow-up, recruited all mild traumatic brain injuries (Glasgow ≥ 13) treated with anticoagulants (DOACs, Acenocumarol) or antiplatelet therapy (Aspirin, Clopidogrel), which were admitted in the emergency ward of our hospital (university hospital) between June 2016 and June 2019. The presence of intracerebral haemorrhage was evaluated by the use of computed tomography scan at admission, 24 hours and 3 months after the event.

Results: In a total population of 540 patients the mean age is 81.9 ± 8.96 , women 50.6%, 96.2% Glasgow 15, mRS ≤ 2 57.6%; 43% took Aspirin, 9.1% Clopidogrel, 39.8% Acenocumarol, 7.6% Apixaban, 1.7% Rivaroxaban, 0.6% Dabigatran and Edoxaban respectively. In the sub-analysis by pharmacological group we found that patients anticoagulants were 50% (DOACs or Acenocumarol), the 93% never had bleeding and 7% bled at admission but not later, not finding significant differences between drugs ($p \leq 0.05$). In the antiplatelet group, 87.3% never had bleeding and 12.7% bled at admission but not after with Aspirin; 90% and 10% respectively with Clopidogrel; not finding significant differences between drugs ($p \leq 0.05$). In the total populations, no patients without bleeding at admission presented bleeding afterwards, regardless of the Glasgow score in the total population and INR level in the case of those treated with Acenocumarol $p \leq 0.05$.

Discussions and Conclusions: After analyzing the population, it can be concluded that being treated with anticoagulants or antiplatelet is a minor risk factor that predisposes an intracerebral haemorrhage after mild traumatic brain injuries, Aspirin being the drug with most danger. As well as patients treated with same drugs after suffering mild traumatic brain injuries can be discharged safely without an observation, only if the computed tomography scan at admission discards intracerebral haemorrhage.

Trial Registration / Funding Information (only) :

Our study was not funded

#22666 : A RARE CASE OF PSEUDOANEURYSM WITH PULMONARY THROMBOEMBOLISM... OPTIMAL TREATMENT OPTIONS.

Authors:

PRAVEEN J (1), NATH JENA NARENDRA (2), GAURAV SINGH (3), MUKUNTHARAJAN T (3)

1. EMERGENCY MEDICINE, MEENAKSHI MISSION HOSPITAL AND RESEARCH CENTRE, MADURAI, India

2. EMERGENCY MEDICINE, MEENAKSHI MISSION HOSPITAL AND RESEARCH CENTRE, madurai, India

3. , MEENAKSHI MISSION HOSPITAL AND RESEARCH CENTRE, madurai, India

Keywords: Duplex ultrasonography, Traumatic , Pseudoaneurysm, Femoral artery, Therapeutic endovascular interventions.

Abstract :

A RARE CASE OF PSEUDOANEURYSM WITH PULMONARY THROMBOEMBOLISM... OPTIMAL TREATMENT OPTIONS.

ABSTRACT –

BACKGROUND -

Pseudoaneurysm is rare, but with pulmonary thromboembolism is very rare with asymptomatic presentation, Clinical suspicion and imaging techniques are the cornerstones of timely diagnosis and appropriate management of the condition. We report a case of 30-year-old man who suffered a traumatic femoral artery pseudoaneurysm, that was diagnosed in ED and treated surgically. He was also found to have asymptomatic saddle pulmonary thromboembolism.

CASE REPORT –

A 30-year-old male, presented to ED with complaint of pain with swelling present over the right thigh since 5 days' duration followed by alleged history of accidental occupational injury over the right thigh by a penetrating sharp object 5 days back. Patient was vitally stable with a sutured wound over the right thigh. On evaluation, duplex ultrasound showed femoral artery pseudoaneurysm with wells' score of moderate risk for pulmonary thromboembolism, CT aorta and bilateral lower limb angiogram suggestive of saddle thrombus seen in the main pulmonary artery extending into right and left branches. Large pseudoaneurysm measuring

about 5.3 x 4 cm of right femoral artery. USG guidance proximal compression of femoral artery and Inj. Human thrombin 500 IU injected into the pseudoaneurysm. Due to recanalization, surgical resection of the pseudoaneurysm of the femoral artery with femoral artery repair was done followed by anticoagulation therapy was given for pulmonary thromboembolism.

CONCLUSION –

This patient had a post traumatic pseudoaneurysm of right femoral artery with asymptomatic saddle pulmonary thromboembolism. The possibility of thrombus formed is by compression of the pseudoaneurysm of the femoral artery over the femoral vein leading to form saddle thromboembolism. Patients with asymptomatic saddle pulmonary embolism can be successfully managed, with conventional treatment for pulmonary embolism without any aggressive measures. The patient was managed by a trial of ultrasound guided thrombin injection into the pseudoaneurysm, due to its recanalization, surgical resection was done and post procedure anticoagulants was initiated for pulmonary thromboembolism and discharged with oral anticoagulant. Early diagnosis with appropriate decision for surgical resection and anticoagulant therapy for pseudoaneurysm with pulmonary thromboembolism will bring good outcome.

#22667 : PREVALENCE OF UNRECOGNIZED BLOOD BORNE DISEASES AMONGST PATIENTS IN EMERGENCY DEPARTMENT AND THE COMPLIANCE WITH UNIVERSAL PRECAUTIONS BY HEALTH CARE WORKERS

Authors:

SATHISHKUMAR PANDISELVAM (1), Jena Narendra Nath (2)

1. EMERGENCY MEDICINE, MEENAKSHI MISSION HOSPITAL, MADURAI, India
2. EMERGENCY MEDICINE, MEENAKSHI MISSION HOSPITAL, madurai, India

Keywords: UNRECOGNIZED BLOOD BORNE DISEASES, UNIVERSAL PRECAUTIONS

Abstract :**INTRODUCTION:**

Emergency health care workers have the highest chance of exposure to patients with unrecognized blood borne diseases. Emergency care workers were many times unaware of the patient's serostatus. In 1983 and 1987, the Centers for disease control and prevention make out the need for personal protective equipment and issued guidelines about it in our routine patient care.

In India, there is an increased risk of transmission of blood borne diseases among health care workers, from the unsafe practices in handling the contaminated needle. .

Occupational safety and health administration has been mandated the value of personal protective equipment to prevent mucocutaneous exposures

The aim and purpose of this study the prevalence of blood borne diseases amongst the patient in ED and in improving the compliance of personal protective

equipment among the ED workers and provide a base line idea for the efficiency of educational intervention about it.

Methods and materials:

This prospective study was performed at the Meenakshi mission hospital and research centre, Madurai for 20 months duration from November 2017 to June 2019. The study population were patients who attended the ED during this study period if she or he aged 18 years to 64 years, who were not known to be HIV, Hepatitis B, Hepatitis C positive with their / or relative consent if their critically ill.

I appointed 8 staff nurses, 4 paramedics, 4 doctors who works in the emergency department in different shifts, who approaches the patients and the relatives during the end of the visit after completing the emergency intervention. The laboratory technicians were available for 24 hours in the department for collecting samples. The blood sample was analyzed by the Chemiluminescence immunoassay technique to detect antibody to HIV, Hepatitis C and Hepatitis Bs Ag

To study the compliance of the ED health care workers with universal precautions, during this period. The study personnel include doctors, staff nurses, paramedics and housekeeping department people.

6 staff nurses and 4 paramedics (at least 2 staffs in each shift) were appointed for observing the compliance of the ED workers. Breaks with universal personal protective measures were scored when ED workers without wearing 1 or more Personal Protective Equipment, like gloves, mask, gown, and eye glasses or goggles contact with any bodily fluids

RESULT:

- Amongst 18,286 patients who were screened, 174 patients were seropositive
 1. 39(0.21%) patients were positive for HIV antibody
 2. 52(0.28%) patients were positive for Hepatitis C antibody
 3. 83(0.45%) patients were positive for Hepatitis B surface antigen

- % OF Breaks of ED personnel with Compliance

PARTICIPANTS

NUMBER OF PERSONNEL

BREAKS

HOUSE KEEPING DEPARTMENT

12

982 (9.3%)

NURSING STAFFS

26

2107 (20%)

PARAMEDICS

9

1094 (10.4%)

DOCTORS

32

6270(59.9%)

79

10,453

CONCLUSION:

This study defines the prevalence of unrecognized bloodborne diseases and the extent of the potential exposure to the emergency personnel. it also provides a baseline for measuring the effectiveness of intervention to improve compliance

#22668 : The Prevalence Of Major Trauma Coagulopathy In Our Population: Real Life**Authors:**

Gabriele Savioli (1), Iride Francesca Ceresa (2), SEBASTIANO GEROSA (3), Sarah Macedonio (3), Maria Antonietta Bressan (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Major Trauma Coagulopathy

Abstract :

Premise and goal: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine the prevalence of major trauma coagulopathy in our population.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st Decembre 2018. All patients registered as affected by severe trauma in our Emergency Depatment have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation. These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...).

We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total. 204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old; Of the patients affected by coagulopathy, 91% satisfied MOI criteria, 22% anatomical criteria and 15% physiopathological criteria.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old; of these patients, 91% satisfied MOI criteria, 10% anatomical criteria, 8% physiopathological criteria.

Conclusions: Our sample population presents a slightly higher rate of patients affected by coagulopathy compared to what currently reported in literature. This is due to the fact that there is no unanimous agreement in literature on the definition of trauma induced coagulopathy. Trauma induced coagulopathy is related to worse outcomes. The following study underlines the importance of having a bedside tools to measure coagulopathy parameters, in order to immediately identify those patients who will require more resources (e.g. blood transfusion, hospitalization, etc) in a time dependent pathology with a high mortality rate like severe trauma.

#22669 : Quality improvement project to improve the management of head injury patients presenting to the emergency department.

Authors:

Waseem Hassan (1), Asif Naveed (2), Rafaqat Hussain (2)

1. , , Birmingham, United Kingdom

2. , Sandwell General Hospital, Birmingham, United Kingdom

Keywords: head injury, emergency department, management of head injury patients

Abstract :**Abstract**

Introduction: - At Sandwell General Hospital (SGH), there was no risk stratification tool or pathway for head injury (HI) patients presenting to the emergency department (ED). This resulted in significant delays in the assessment of HI patients, compromising patient safety and quality of care.

Aims: - To employ quality improvement methodology to design an effective adult head injury pathway that: ensured >90% of high-risk HI patients being assessed by ED clinicians within 15 minutes of arrival, reduce CT turnaround times, & aiming to keep the final decision making < 4 hours.

Methods: - SWOT analysis was performed; Driver diagrams were used to set out the aims and objectives. Plan Do Study Act cycle was used to facilitate the change and monitor the outcomes. Process map was designed to identify the areas for improvement. A new HI pathway was introduced, imaging & transporting the patients was modified, and early decisions were made to meet the standards.

Results: - Data was collected and monitored following the interventions. The new pathway improved the proportion of patients assessed by the ED doctors within 15 minutes from 31% to 63%. The average time to CT head scan was decreased from 69 minutes to 53 minutes. Average CT scan reporting time also improved from 98 minutes to 71 minutes. Overall, the average time to decision for admission or discharge decreased from 6 hours 48 minutes to 4-hour 24 minutes.

Conclusions: - Following implementation of the new HI risk stratification and assessment pathway, there was an improvement in the patient safety and quality of care. High risk head injury patients were picked up earlier, assessed quicker and had CT head scans performed sooner. Decision for admission or discharge was improved. The new HI pathway continues to be used, and will be reviewed and re-audited between 3-6 months to ensure the sustained improvement.

#22670 : Healthcare economic burden in the United States of atrial fibrillation patients treated with oral factor Xa inhibitors and hospitalized with a major bleed**Authors:**

Gregory Fermann (1), Belinda Lovelace (2), Mary Christoph (2), Melissa Lingohr-Smith (3), Jay Lin (3), Steven Deitelzweig (4)

1. , University of Cincinnati, Cincinnati, USA

2. , Portola Pharmaceuticals, South San Francisco, USA

3. , Novosys Health, Green Brook, USA

4. , University of Queensland and Ochsner Clinical School, New Orleans, USA

Keywords: atrial fibrillation, oral factor Xa inhibitors, major bleed, healthcare costs

Abstract :

Background: Oral factor Xa inhibitors (oFXals) are used as anticoagulation therapy to reduce stroke risk of patients with atrial fibrillation (AF). However, as anticoagulants, these medications are associated with increased bleeding risk.

Purpose: To examine the healthcare burden of AF patients treated with oFXals who were hospitalized in the U.S. with a major bleed (MB) with a breakdown by MB type.

Methods: Patients (≥ 18 years) treated with oFXals (rivaroxaban, apixaban, or edoxaban) who had an inpatient hospitalization with MB (January 1, 2015–April 30, 2018) were extracted from the MarketScan claims databases. The index date was defined as the first MB inpatient hospitalization. Patients were grouped into 3 study cohorts based on the type of MB: gastrointestinal (GI), intracranial hemorrhage (ICH), and other MB type. Healthcare resource utilization and costs were evaluated for index MB hospitalizations and during the 6-month period prior to the index event and a variable follow-up period of 1–12 months for the study cohorts. Multivariable regression analyses were conducted to examine the impact of having ICH or other MB type vs. GI MB on index event hospital length of stay and cost, as well as all-cause healthcare costs in the follow-up. The covariates in the regression analyses included age, gender, U.S. geographic region, payer type, Charlson Comorbidity Index score, CHA₂DS₂–VASC score, HAS–BLED score, select comorbidities, oFXal type, and AF type. All costs were inflated to 2019 USD and annualized.

Results: Among the study population of AF patients treated with oFXals who had an MB hospitalization (N=7,577), 55.9% had GI MB (N=4,236; mean age: 76.8 years; 48% female), 9.9% had ICH (N=753; mean age: 77.9 years; 42% female), and 34.2% had other types of MB (N=2,588; mean age: 74.4 years; 39% female). For index GI MB, ICH, and other MB hospitalizations, unadjusted mean lengths of stay were 5.0, 6.8, and 5.5 days, respectively; mean costs were \$26,901, \$54,163, and \$36,645, respectively. From the adjusted analyses, for index hospitalizations, patients with ICH vs. those with GI MB spent on average 1.6 more days in the hospital ($p < 0.001$) and had an average of \$15,630 higher hospitalization cost ($p < 0.001$); patients with other types of MB vs. those with GI MB spent on average 0.6 more days in the hospital ($p = 0.001$) and had an average of \$5,859 higher hospitalization costs ($p < 0.001$). During the follow-up period after the index hospitalization, all-cause inpatient, outpatient medical, and total healthcare (inpatient, outpatient medical, and outpatient pharmacy) costs per patient were

\$9,376 ($p=0.019$), \$4,734 ($p=0.008$), and \$14,037 ($p<0.001$), respectively higher for ICH patients vs. GI MB patients; they were \$1,738 ($p=0.350$), \$3,089 ($p=0.003$), and \$5,208 ($p=0.011$), respectively higher for other MB patients vs. GI MB patients.

Conclusions: Among 7,577 AF patients treated with oFXals and hospitalized for MB in the U.S., GI MB was most prevalent. All 3 MB categories were associated with high hospitalization costs; however, in comparison to GI MB, ICH and other types of MB had higher average costs for index events and all-cause total healthcare costs during the time period following MB hospitalization.

#22684 : Peer-to-peer trauma teaching in medical school

Authors:

Hanno Brinkema (1), Dorothea Hempel (2)

1. MAMBA Skillslab, Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany
2. Emergency department of the University Hospital Magdeburg, University Hospital Magdeburg, Magdeburg, Germany

Keywords: Education, Teaching, Trauma, Peer-to-peer, Students

Abstract :

Background: Trauma is the leading cause of death in western societies for people under the age of 40. As trauma care impacts the outcome of severely injured patients standardized training courses have been implemented to teach emergency medicine providers. Most protocols and courses use the cABCDE algorithm as promoted by ATLS® (advanced trauma life support) guidelines. Early training in medical school can facilitate application of trauma algorithms. We developed and evaluated a peer-to-peer eight-hour trauma course for medical students using the cABCDE algorithm.

Methods: Students in their third year of medical school or higher entered the trauma course at the SkillsLab of the Otto-von-Guericke University Magdeburg. Written pre-course material including theoretical knowledge focusing on the cABCDE algorithm was provided. The hands-on training was divided into four sessions lasting two hours each. The first session covers spinal immobilization (spineboard, cervical spine collar), the use of a pelvic binder and a tourniquet. The second session is dedicated to airway management. Sessions three and four consist of simulated cases. A medical student taught each session. These students completed a PHTLS (pre-hospital trauma life support) and a didactics course prior to their first teaching session. In addition an experienced student-instructor supervised the first trauma course of each student.

After each session the participants were asked to fill out a questionnaire rating their assertiveness regarding knowledge and skills with respect to spinal immobilization, diagnosing and treating A-, B-, C- and D-problems before and after the session. We used a five-level Likert scale from 1 („I strongly disagree“) to 5 („I strongly agree“).

Statistical analysis was performed using the Wilcoxon signed-rank test and the software „r-statistics“.

Results:

We evaluated 35 courses with 137 participants from October 2018 until November 2019. We observed a highly significant improvement in the subjective assertiveness before and after the session for every item of the questionnaire ($p < 0,0001$). 83.78% felt confident that they could apply the skills regarding immobilization on a real patient after the first course, as 63.16% did on using their knowledge and skills focusing on airway management. After the third trauma course 69.7% of the participants strongly agreed that they felt competent to apply the cABCDE algorithm to a real patient, 6.06% were not sure and 3.03% disagreed. After the fourth course 100% agreed that they felt confident using their knowledge in clinical practice.

Discussion & Conclusion:

Our study shows that peer-to-peer trauma teaching by medical students leads to a significant improvement in the subjective assertiveness regarding knowledge and skills. This improvement was seen in all covered topics of trauma care using the cABCDE algorithm.

As we only assessed the subjective perception it is uncertain how this translates into clinical practice. Long-term retention of knowledge and skills was not tested in this study. A follow up analysis and an OSCE (objective structured clinical examination) are needed to assess these aspects.

We were able to show that medical student peer-to-peer trauma courses improve subjective assertiveness regarding knowledge and skills when applying the cABCDE algorithm.

Authors:

Gabriele Savioli (1), Iride Francesca Ceresa (2), SEBASTIANO GEROSA (3), Sarah Macedonio (3), Maria Antonietta Bressan (4)

1. emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy
2. emergency department, Ospedale Civile, VIGEVANO, Italy
3. STUDENT EMERGENCY DEPARTEMENT, IRCCS POLICLINICO SAN MATTEO, PAVIA, Italy
4. PAST DIRECTOR emergency department, IRCCS POLICLINICO SAN MATTEO, pavia, Italy

Keywords: Causes Of Major Trauma ; Trauma Induced Coagulopathy; Emergency Room ; real life

Abstract :

Premise and goals: Severe trauma is the first cause of death worldwide for patients of age 40 or less. About 30% of severe trauma patients presents with trauma induced coagulopathy at arrival to the E.D. About 40% of trauma deaths are related to bleeding, a quarter of which seems preventable. The goal of this study is to determine if patients with coagulopathy present with more severe anatomical injuries.

Methods: We conducted a monocenter prospective observational study involving all patients affected by severe trauma in the Emergency Department of the Fondazione Policlinico IRCCS S. Matteo in Pavia in 12 consecutive months: from the 1st of January 2018 to the 31st December 2018. All patients registered as affected by severe trauma in our Emergency Department have been enrolled. Inclusion criteria are to satisfy at least one of the pathognomonic classification criteria for severe trauma as defined by the American College of Surgeons, Advanced Trauma Life Support (ATLS®) and approved by regional deliberation.

These criteria are: Physiopathological Criteria (compromised health parameters or necessity for advanced life support); Anatomical Criteria (e.g. puncturing wound to the head, neck, thorax or abdomen); Mechanism of Injury Criteria (e.g. ejection from vehicle, death of an occupant in the same vehicle...). We considered patients affected by coagulopathy if positive for at least two altered biochemical values traditionally used to study coagulopathy. Patient undergoing an anticoagulant therapy have been excluded.

Results: We evaluated 503 patients in total.

204 were affected by trauma induced coagulopathy (80% of which males) with an average age of 44 years and peak incidence between 55 and 65 years old; Of the patients affected by coagulopathy, 91% satisfied MOI criteria, 22% anatomical criteria and 15% physiopathological criteria.

299 were not affected by coagulopathy (68% of which males) with an average age of 43 years and peak incidence between 25 and 35 years old; of these patients, 91% satisfied MOI criteria, 10% anatomical criteria, 8% physiopathological criteria.

Trauma causes among patients affected by coagulopathy are: 68% traffic accident, 8% domestic accident, 3% self inflicted injury, 3% work related injury, 0.5% violence, 5% other.

Trauma causes among patients not affected by coagulopathy are: 77% traffic accident, 8% domestic accident, 2% self inflicted injury, 6% work related injury, 0.3% violence, and 3% other.

Conclusions: Among the vast sample from us considered, there is no significative causative difference between trauma patients who develop trauma induced coagulopathy and those who do not.

#22687 : Two wrongs do not equal a right; a near miss of bilateral anterior shoulder dislocation**Authors:**

Chloe Doran (1)

1. Emergency Department, Our Lady of Lourdes Hospital, Drogheda., Drogheda, Ireland

Keywords: Trauma, Orthopaedic

Abstract :

Simultaneous bilateral anterior shoulder dislocation (BASD) is a rare clinical entity. There are very few cases reported in the literature relative to the frequency of presentation of shoulder dislocation, being the commonest large joint dislocation seen in the Emergency Department. When occurring, BASD is usually in the setting of trauma, unlike the more prevalent bilateral posterior shoulder dislocation which ordinarily occurs secondary to maximal involuntary muscle contraction, in which internal rotator muscle spasm overwhelms the weaker external rotators, in the context of seizure, electrocution, or hypoglycemia. BASD can often be missed, with figures reporting 10% late diagnosis due to the apparently symmetrical appearance of the squared-off shoulders, making the typical unilateral deformity less obvious.

This report presents a case of a 77 year-old male who arrived by ambulance to the Emergency Department following fall from moving golf buggy onto the left shoulder. After landing and experiencing immediate severe pain to his left shoulder, the patient quickly and aggressively rolled backwards onto his right side, landing in a supine position. He had received intravenous opioid and inhaled methoxyflurane prior to arrival for query left shoulder dislocation by paramedics, suspected on basis of patient complaint of left shoulder pain, and disfigurement of left shoulder. There was no history of seizure, nor of any previous shoulder dislocations or joint laxity.

On examination of the left shoulder, swelling and deformity with positive Dugas test suggestive of shoulder dislocation was noted, along with significant pain and reduced range of motion on attempted active and passive movement. Neurovascular status of the left upper limb was intact, and there was no open wound. A clinical diagnosis of simple left anterior shoulder dislocation was made. For completion of assessment, the contralateral shoulder was examined despite patient being asymptomatic of right shoulder injury. At this point, fullness and loss of round contour of the right shoulder was documented, giving rise to the clinical picture of Epaulet sign. Right shoulder also exhibited features, as with left shoulder, suggestive of uncomplicated dislocation, now changing the diagnosis to BASD. There were no other injuries identified and patient was haemodynamically stable. The clinical suspicion was confirmed on X-rays, along with non-displaced right humeral head fracture, and a bony Bankart lesion at the inferior glenoid of the left shoulder. Both shoulders underwent closed reduction under inhaled methoxyflurane using Kocher technique, and check X-rays demonstrated correct repositioning.

Patient was discharged with fracture clinic follow up, and later underwent surgical Bankart repair on the left shoulder.

This case is interesting as it presents a very rare clinical scenario, yet illustrates important learning points applicable to the assessment of any patient in the Emergency Department; distracting injury or symptom should not divert attention from other, potentially more serious, injuries or conditions, as with our patient who solely complained of left shoulder pain although simultaneously having fracture dislocation of the right shoulder, and furthermore to consider secondary injuries or complications of shoulder dislocation that may require subsequent intervention to prevent chronic glenohumeral joint instability or neurovascular damage.

#22688 : The impact of acute care ward on overcrowding and sudden in-hospital cardiac arrest in emergency department**Authors:**

Jen Han Yang (1), Chih-Yu Chen (1), Hong-Mo Shih (1)

1. Emergency department, China medical university hospital, Taichung, Taiwan, China

Keywords: Overcrowding, In-hospital cardiac arrest

Abstract :**Purpose of the study**

It is well known that overcrowding in the emergency department (ED) may negatively affect the quality of patient care and may even increase the incidence of in-hospital cardiac arrest (IHCA). One of the reasons why the emergency room is overcrowded is no available beds in the ward. Thus, acute care wards were developed for relieve the overcrowding in the ED.

Materials and methods

We retrospectively collected data of the patient who experienced IHCA since March 2018 to February 2019 in ED of China Medical University in Taichung. Patient's demographic status, information of resuscitation about onset time, period, initial rhythm, medications, present of return of spontaneous circulation, and performance of procedure were collected. In addition, nurses regularly record ED crowding assessments every two hours, including ED bed occupancy ratio (EDBOR), proportion of total boarding patients, patients boarding longer than 24 and 48 hours, and waiting for the intensive care unit (ICU) more than 24 Hours and 48 hours. EDBOR is defined as a ratio of the total beds occupied by patient to total licensed ED beds.

The primary outcome is to investigate the impact of a new acute care ward on the crowding status and IHCA of the ED.

Results

We compare the period before and after the new acute care unit. The ED crowding status was much relieved after the new acute care unit operated. Compared with the period before new acute care unit, the EDBOR decreased, (0.371 vs. 0.171, $P<0.0001$), total boarding patients (0.356 vs. 0.134, $P<0.0001$), the boarding time to ward over 24 hours (0.291 vs. 0.116, $P<0.0001$) and 48 hours (0.328 vs. 0.116, $P<0.0001$) and the boarding time to ICU over 24 hours (0.256 vs. 0.228, $P=0.0008$) and 48 hours (0.193 vs. 0.156, $P<0.0001$). However, there is no significant difference in IHCA rate (2.56% vs. 2.22%, $P=0.2687$).

Conclusions

In conclusion, a new acute care unit is very effective to relieve the ED crowding status. However, IHCA rate has no obvious difference between the before and after period.

#22689 : Pre-hospital traumatic cardiac arrest in the City of Prague

Authors:

Katarina Vesela (1), Ondrej Franek (2)

1. , Zdravotnická záchranná služba hl. města Prahy (EMS Prague), Prague, Czech Republic

2. , Zdravotnicka zachranna sluzba hl.m. Prahy, Prague, Czech Republic

Keywords: trauma, CPR, cardiac arrest

Abstract :

Introduction

While there is a lot of studies dealing with out-of-hospital cardiac arrest (OHCA), data about trauma OHCA (T-OHCA) are rarely published. The aim of this study is to describe epidemiology and results of T-OHCA in City of Prague (1,2 million of inhabitants).

Methodology

This is a retrospective analysis of epidemiology and survival rates of T-OHCA during 15 years period from 2003 to 2018. The data are taken from Prague OHCA Utstein-style database.

Results

In the study period, there were 8 508 OHCA attended by Prague EMS, of which 418 met the criteria of T-OHCA (4,9%). The majority of T-OHCA occurred in age groups 31 – 50 (155; 37,1%; $p < 0.05$) and 19 – 30 (91; 28,1%; $p < 0.05$). Men suffered T-OHCA in 75,4%. Layperson CPR was performed in 219 cases (52,4%).

The first captured rhythm was most often asystole (255; 61%). Ventricular fibrillation (VF-first subgroup) as the first rhythm was present in 32 patients (7,7%). The most common cause of T-OHCA was car accident (31,1%) and fall from height (20,6%). The overall survival rate from T-OHCA (CPC 1-2) was 6,2%.

Conclusion

T-OHCA is not such a rare event. The most vulnerable group is adult men between 31 – 50 years of age. Chances of survival after T-OHCA in Prague are less than in non-traumatic OHCA (CPC 1-2; 6,2% vs. 15,1%), which corresponds to the global average. T-OHCA is common in pre-hospital setting and everyone in the emergency service must be adequately trained for it.

#22690 : Significant symptoms of acute coronary syndrome and their mutual dependency**Authors:**

Katarina Vesela (1), Miloslav Loucka (2), Tereza Krskova (3), Ondrej Franek (3)

1. , Zdravotnická záchranná služba hl. města Prahy (EMS Prague), Prague, Czech Republic

2. EMS, Zdravotnická záchranná služba hl.m. Prahy, Prague, Czech Republic

3. , Zdravotnická záchranná služba hl.m. Prahy, Prague, Czech Republic

Keywords: acute coronary syndrome, EMS

Abstract :**Background**

It is clear from European Society for Cardiology⁴ that the basic symptoms of acute coronary syndrome are typical chest pain with radiating and additional symptoms are sweating, nausea, abdominal pain, dyspnoea and syncope may be present.

The goal of this study is to describe the frequencies of these symptoms in EMS Prague and their mutual dependency.

Method

This is a retrospective analysis of symptoms in patients with primary diagnosis of ACS during period from 12/2018 to 12/2019. 344 patients met criteria of this study.

Results

It was found that 278 patients (80.8 %) had a chest pain, 42 patients (12.2 %) did not feel pain in their chest. Only 87 patients (25.2 %) had a chest pain with typical irradiation. 125 patients (36.3 %) had dyspnoea. 108 patients (31.3 %) had a chest pain together with dyspnoea. 121 patients (36.3 %) were sweating and 111 patients (32.2 %) had sweating with a chest pain. 76 patients (22 %) had nausea, 16 patients (4 %) had a abdominal pain, 23 patients (6 %) had syncope. 14 patients (4 %) had all the above symptoms (chest pain, dyspnoea, nausea and sweating).

Conclusion

It is possible to come to the conclusion based on the given findings that the most frequent symptoms of ACS are chest pain, dyspnoea and sweating, however all the symptoms only occur with small number of patients.

#22691 : Evaluation of educational effectiveness of the chemical-mass casualty incident response education module (C-MCIREM): A prospective simulation study

Authors:

Heejun Shin (1), Myeong-sik Kim (2)

1. Assistant professor of emergency department , Department of Emergency Medicine, Soonchunhyang University, Bucheon city, Korea, Republic of
2. Resident of emergency department , Soonchunhyang University Bucheon Hospital , Bucheon city, Korea, Republic of

Keywords: Disaster Medicine, Disasters, Chemical Incidents, Medical Education, Mass Casualty Incidents

Abstract :

Background: This study was conducted to verify the educational effect of the chemical–mass casualty incidents response education module (**C-MCIREM**) developed on September 2019 in South Korea.

Method: This was educational prospective simulation study. On September 17, 2019, 25 trainees were recruited from fire departments (5), public health centers (4) and hospitals (16) in Gyeonggi–do, South Korea, were trained for six hours in a day. Theoretical test and confidence survey related to chemical mass casualty incidents were divided into pre and post data, collected online and the results were quantitatively compared. In the tabletop drill exercise, both quantitative and qualitative analysis were used to measure the educational effect as the team scale. After the training, the final survey was implemented online and was analyzed. The survey used an 11 point Likert scale, with a score of 0 being least favorable, 5 being neutral favorable, and 10 being most favorable.

Result: There were 14 males (56%) and 11 females (44%). The mean and standard deviation (SD) of age and career years of total 25 trainees were (34.12; 7.56) and (7.28; 5.61) respectively. In theoretical test of all 25 trainees, the mean and SD score of baseline versus (vs) score after education were (41.72; 15.19) vs (77.96; 11.23), ($p < 0.05$). Confidence survey which were measured as Likert scale for chemical MCI response of all 25 trainees, the mean and SD of scale of baseline vs scale after education concerning confidence for proper chemical MCI response, personal protective equipment selection and usage, proper antidote selection, antidote stockpiling and teaching colleagues about knowhow, zone setup and decontamination, and chemical triage before and after decontamination were (3.52; 2.40 vs 7.08; 1.68, $p = 0.000$), (3.68; 2.58 vs 7.20; 1.66, $p = 0.000$), (2.92; 2.41 vs 7.04; 1.84, $p = 0.000$), (2.64; 2.22 vs 7.32; 1.99, $p = 0.000$), (2.84; 2.19 vs 7.60; 1.63; $p = 0.000$) and (2.72; 2.56 vs 7.64; 1.66, $p = 0.000$) respectively. On tabletop drill simulation of prehospital setting with 11 trainees, first and following second drill total score were 58 out of 100 and 82 out of 100. On tabletop drill simulation of hospital setting with 14 trainees, first and following second drill total score were 26 out of 100 and 67 out of 100. On qualitative analysis of tabletop drill simulation, index of initial disaster situation report, chemical MCI zone setup, casualty status board setup, decontamination, proper hospital transport, proper handling of mass media contact and debriefing of scene commander were improved in prehospital setting while hospital incident command system activation, decontamination, all actions for enhancing hospital surge capacity, debriefing of hospital commander were upgraded in hospital setting. The last 22 (88%) trainees responded to the final survey, the mean and SD concerning willingness to recommend this training program to others, overall satisfaction with theoretical education, overall satisfaction with tabletop drill simulation and opinion whether policymakers need this training were (8.18; 1.89), (8.64; 1.73), (8.41; 1.90) and

(8.91; 1.19) respectively.

Conclusion: Education using **C-MCIREM** was effective in both theory and practice, and the survey also showed high satisfaction with the student's confidence increase.

#22693 : Antley-Bixler- an orphan medical condition

Authors:

Ion-Alexandru Ciuta (1), Dan Victor Ciapa (2), Andreea Nychita (3)

1. Emergency Department, Emergency County Hospital "Pius Brinzeu" Timișoara, Timisoara, Romania
2. Emergency Department, Emergency County Hospital "Pius Branzeu" Timisoara, Timisoara, Romania
3. Emergency Department, Emergency Hospital for Children "Louis Turcanu" Timisoara, Timișoara, Romania

Keywords: pediatrics, antley-bixler,

Abstract :

First described in 1975, Antley-Bixler Syndrome (ABS) is an autosomal recessive, exceptionally rare craniosynostosis syndrome characterized by radiohumeral synostosis presented from the perinatal period. Little over 50 cases have been reported. We present the case of CF, male, 2 days old, who was born from consanguineous cohabitation between a 16 years old mother and a 20 years old father, unsupervised pregnancy. The patient had multiple deformities as followed: severe exophthalmia, choanal stenosis, arachnodactyly, neonatal teeth, hypospadias. Unfortunately, even with all the best medical treatments, he died three weeks later. Following medicine development, nowadays ABS can be diagnosed prenatally by ultrasound, which may reveal pathognomonic findings and also, if there is a known family history of the condition or risk factors involved, targeted genetic testing is available. Unfortunately, there is no cure for the condition, all the treatment is supportive and aimed at managing symptoms.

#22697 : Major equestrian trauma in children: review of regional data and the Haddon matrix as an assessment tool**Authors:**

Marina Awadalla (1), Peter Heinz (2), Roderick Mackenzie (3)

1. Cambridge University, n/a, Cambridge, United Kingdom
2. CUHFT, Addenbrooke's Hospital, Cambridge, United Kingdom
3. Cambridge University Hospitals NHS Foundation Trust, East of England Major Trauma Centre, Cambridge, United Kingdom

Keywords: Equestrian, major trauma, children, Haddon matrix

Abstract :

Introduction

In young girls horse-riding is one of the most common sports injuries. It is considered as one of the most dangerous sports with the severity of injuries comparable to motoring incidents. Since 2010 there have been 3,700 horse related incidents and 43 deaths in the UK on roads alone. A thorough and focussed history is likely to identify and help eliminate factors which contribute to an injury occurring and its severity, like wearing protective gear. A Haddon matrix, four by three grid, provides a structured approach to gather relevant information. The three rows represent different phases of an injury (pre-event, event, and post-event), and the four columns represent different influencing factors (host, agent/vehicle, physical environment, social environment).

Method

We populated a Haddon matrix for horse related injuries in children with possible avoidable/protective factors that are essential to explore when history-taking. 29 cases of horse-related injury with an ISS (injury severity score) of greater than 4 attending a regional trauma centre were extracted from the national TARN (trauma audit & research network) database, covering the last 15 years. Electronic patient records date back 5 years so 10/29 cases were included. The Haddon matrix was applied to these 10 cases and assessed for the quality of information documented.

Results

These 10 children were aged between 3 and 15 years, 80% were female, 60% were transferred from another hospital and one later had a further horse-related admission. Only 4/10 cases documented whether protective equipment was worn. Of these four cases 3/4 children were said to be wearing helmets and 2/4 wearing body protection. Most of the injuries were sustained by a child falling off whilst horse-riding. However, 3/10 cases involved children being kicked by a horse, none of these 3 cases mention any protective equipment whilst around the animal or the level of supervision they were receiving despite their age being less than 6 years. Only 1/10 cases filled 50% of the matrix or more (6+/12 boxes). 5/10 children expressed interest in continuing to work with horses after their injury.

Conclusion and recommendation

Identification of injuries related to equestrian activities was limited to the most severe cases as only these are captured by TARN. Even in those cases, the history documented in the patients' records often omitted important information which may help to identify injury modifying factors. Therefore, questions relating to the environment, supervision, training and use of protective gear of children while around horses needs to be investigated better when children come into hospitals with horse-related injuries. These findings could inform changes to improve the safety of these and other children around horses in future. We propose use of the Haddon matrix as a structured tool for data collection and identification of injury modifying factors, similar to current guidance and advice in relation to children presenting with safeguarding concerns. Children presenting even with minor trauma related to equestrian activity are likely to benefit from this intervention. Further research as to the impact of intervention when attending the emergency department is required.

Trial Registration / Funding Information (only) :

No funding received

#22699 : Epidemiology and Outcome of Powered Mobility Device-Related Injuries in Korea

Authors:

Yongho Shin (1), taerim Kim (1), Won chul Cha (1), Hee Yoon (1), Hwang Sung Yeon (1), Shin Tae Gun (1), Sim Min seob (1)

1. Emergency department, Samsung medical center, Seoul, Korea, Republic of

Keywords: injuries, wheelchairs, electric equipment and supplies, elderly patients, powered mobility device

Abstract :

Background: This study described and analysed the features of powered mobility device (PMD)-related injuries and compared elderly and younger adult injuries.

Methods: Data from Korea Emergency Department-based Injury In-depth Surveillance (EDIIS) database involving eight emergency departments in 2011–2016 were analysed. The inclusion criteria were injuries sustained during the use of PMDs. The variables were compared between adults aged ≥ 65 years and younger adults. Primary and secondary outcomes were severe trauma and poor clinical course accordingly. The logistic regression analysis was used to identify risk factors for study outcomes.

Results: A total of 231 adults were enrolled, of whom 150 were ≥ 65 years of age. The total number of PMD-related injuries and the proportion of elderly injured patients increased annually, and most injuries occurred on the roadway and did not involve crash opponents. By multivariate analysis, patients aged ≥ 65 years had a higher injury severity score (adjusted odds ratio [AOR], 2.78; 95% confidence interval [CI], 1.50–5.40) and had a higher incidence of intensive care unit admissions, surgery, and death (AOR, 2.42; 95% CI, 1.16–5.28).

Conclusion: Given the higher number and severity of injuries sustained among elderly adults ≥ 65 years of age shown in this study, we recommend that safety educations, such as the use of protective equipment and the safe driving on the roadway, are considered for PMD users ≥ 65 years of age.

#22724 : Identification of febrile infants less than 90 days old with altered urine dipstick and very low risk for invasive bacterial infection. A RISEuP-SPERG and REPEM collaborative study.

Authors:

Roberto Velasco (1), Ainara Lejarzegui (2), Borja Gomez (3), Santiago Mintegi (4), Sergio Manzano (5), Anne-Aurelie Lopes (6), Isabel Duran (7), Amaia Camara (8), Daniel de la Rosa (9), Jose Rodriguez (10), Andres Gonzalez (11), Mercedes De la Torre (12), Aris Rivas (13), Isabel Martinez (14), Carlos Miguel Angelats (15), Sandra Moya (16), Sonia Corral (17), Beatriz Vega (18), Juan Alonso (19), Patricia Del Rio (20), Elena Sancho (21), Ignacio Ruiz del Olmo (22), Inmaculada Nieto (23), Francisco Javier Benito (2)

1. Pediatric Emergency Department., Rio Hortega University Hospital. (Valladolid, SPAIN), Laguna de Duero, Spain
2. Pediatric Emergency Department, Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Bilbao, Spain
3. Pediatric Emergency Department., Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Barakaldo, Spain
4. Pediatric Emergency Department., Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Gorliz, Spain
5. Pediatric Emergency Department., Geneva University Hospital, Geneva, Switzerland
6. Pediatric Emergency Department., Robert Debre University Hospital, Paris, France
7. Pediatric Emergency Department, Hospital Carlos Haya, Malaga, Spain
8. Pediatric Emergency Department., Donostia University Hospital, Donostia, Spain
9. Pediatric Emergency Department., CHUIMI Canarias, Las Palmas de Gran Canaria, Spain
10. Pediatric Emergency Department., Virgen de la Arrixaca University Hospital, Murcia, Spain
11. Pediatric Emergency Department, Hospital de Basurto, Bilbao, Spain
12. Pediatric Emergency Department., Niño Jesus University Hospital (Madrid, Spain), Madrid, Spain
13. Pediatric Emergency Department, Hospital Universitario Gregorio Marañón, Madrid, Spain
14. Pediatrics, Virgen del Rocio University Hospital, Sevilla, Spain
15. Pediatrics, Francesc de Borja University Hospital, Gandia, Spain
16. Pediatric Emergency Department., Parc Tauli University Hospital, Sabadell, Spain
17. Pediatrics, Hospital General de Granollers, Granollers, Spain
18. Pediatrics, Hospital de Laredo, Laredo, Spain
19. Pediatrics, Hospital San Agustín, Linares, Spain
20. Pediatrics, Hospital de Mendaro, Mendaro, Spain
21. Pediatrics, Hospital General San Jorge, Huesca, Spain
22. Pediatrics, Hospital de Barbastro, Barbastro, Spain
23. Pediatrics, Hospital de San Juan de Dios del Aljarafe, Sevilla, Spain

Keywords: febrile infant, urinary tract infection, invasive bacterial infection, score

Abstract :

Objective

To derivate and validate a clinical prediction rule to identify febrile infants ≤ 90 days old with altered urine dipstick who are in low risk for invasive bacterial infections (IBI).

Patients and methods

The derivation sample was obtained from a prospective registry of febrile ($\geq 38^{\circ}\text{C}$) infants ≤ 90 days old attended in a single pediatric emergency department (PED) from October-2013 to August-2018, both included. The clinical rule was validated in a multicenter prospective sample of febrile infants ≤ 90 days old with altered urine dipstick (either leukocyte-esterase or nitrites positive test) attended in 21 European PED members of RISEuP or REPEM between December-2017 and November-2019. Patients were excluded if any mandatory test (urine dipstick, urine culture or blood culture) was not obtained.

A patient was diagnosed as an IBI when a bacterial pathogen growth in a blood or cerebrospinal fluid (CSF) culture. An IBI was considered as secondary to urinary tract infection (UTI) when the same bacteria was isolated both in the urine culture and the blood and/or CSF culture.

Results

We included 1111 patients (662 in the derivation set and 449 in the validation set). The prevalence of IBI was 5.1% (95% CI 3.7 – 7.1) in the derivation sample (33 bacteremia and 1 patient in whom an *Escherichia coli* was isolated in urine, blood and CSF cultures). Meanwhile, 22 (4.9%; 95% CI 3.3–7.3) were diagnosed with an IBI in the validation sample, all of them bacteremia. After multivariate analysis, we developed a predictive model (RISeuP score) including age ≤ 15 days old, a procalcitonin (PCT) level ≥ 0.6 ng/ml and a C reactive protein (CRP) level ≥ 20 mg/L as risk factors. The absence of any of these three risk factors identified patients without an IBI with a sensitivity of 96.0% (CI95% 80.5 – 99.3) and a negative predictive value of 99.4% (CI95% 96.4 – 99.9) in the derivation sample. Only a 52 days old patient with a CRP value of 0.08 mg/L and a PCT value of 0.05 ng/ml was misclassified (an *Enterococcus faecalis* grew in both urine and blood cultures). The sensitivity and negative predictive value of the model in the validation sample were 100% (CI95% 85.1 – 100) and 100% (CI95% 97.0 – 100), respectively.

Conclusion

The RISeuP score accurately predicts IBI in well-appearing febrile infants ≤ 90 days old with an altered urine dipstick. The RISeuP score can be used to guide initial clinical decision-making in these patients, identifying infants suitable for an outpatient management.

#22728 : Audit of the quality of referral letters from general practice to emergency department; a solution ready and waiting

Authors:

Chloe Doran (1), Gillian Maguire (2)

1. Emergency Department, Our Lady of Lourdes Hospital, Drogheda., Drogheda, Ireland
2. Emergency Department, Cavan General Hospital, Louth, Ireland

Keywords: Primary Care, Referral

Abstract :

Inconsistency among referral letters from General Practice (GP) to Emergency Departments (ED) was addressed by the Irish College of General Practitioners (ICGP) and the national General Practice Information Technology (GPIT) group in 2010, resulting in formulation of a National Referral Template compatible with four major GPIT-accredited practice management systems used throughout Ireland, or which can be utilised in paper format. The goal of standardising referrals was to ease this process for GPs through use of a streamlined template, whilst ensuring doctors receiving patient care are provided with accurate, and relevant clinical and administrative data, in a legible and organised fashion, to allow optimal patient assessment and interpretation of findings. The template was recommended by the Health Information and Quality Authority (HIQA) in their 2011 report. We undertook an audit aimed at examining quality of GP referral letters to Cavan General Hospital (CGH) ED, including Paediatric Assessment Unit, over a 1-month period, and determining need to highlight existence of this recommended referral form to GPs in the catchment area, so as to improve patient flow and care in ED.

The National Referral Template published on ICGP/HIQA websites was used as the comparator. Sections, and in some instances subsections, of the template were allocated a score of 1, to total maximum score of 12 for fully-completed referral letters. Every patient record registered in CGH ED from 01/07/18-31/07/18 inclusive was individually analysed for mode of presentation, and all GP referrals were further studied for scoring and to compare accuracy of information with that recorded in ED notes. In cases of handwritten letters, whereby information was deemed illegible by three doctors, a score of 0 was allocated to the section/subsection. Data was collected in Excel spreadsheet. After data accumulation and interpretation, a generic letter detailing audit results was compiled and sent to GPs in the catchment, along with a copy of the National Referral Template and instructions on where to find these resources online, along with GPIT/HIQA reports supporting its use. After a 6-week period, re-audit was performed on 150 randomly-selected patients presenting to ED.

2,612 patients presented to ED during first audit cycle; 1,698 patients self-presented [1,326 walk-in, 372 ambulance], and 914 patients were referred by GP [873 walk-in, 41 ambulance]. Average score for GP letters to ED was 7.24 on this first cycle. Certain areas of information were identified as consistent omissions, including past history/medications/allergies/social history. Quality of letters were also found to vary between patient populations; letters for paediatric patients were overall higher-scoring, compared with adult/geriatric patients.

A total of 150 patients were analysed for re-audit; 78 patients self-presented [70 walk-in, 8 ambulance], and 72 patients were referred by GP [68 walk-in, 4 ambulance]. Average score for second cycle was 7.47, showing no statistically significant difference after the intervention.

Despite extensive nationwide endeavours by GPIT/HIQA to standardise referrals to ED, and our direct efforts to surrounding GPs, much work remains to increase GP acknowledgement of the National Referral Template, and to create awareness about importance of informative, accurate letters to ED.

Trial Registration / Funding Information (only) :

N/A

#22730 : A multi-centre, non-interventional, observational study into the expectations of adult patients attending a tertiary centre Emergency Department.

Authors:

Chloe Doran (1), Hugh McGowan (2)

1. Emergency Department, Our Lady of Lourdes Hospital, Drogheda., Drogheda, Ireland
2. Emergency Department, Cavan General Hospital, Dublin, Ireland

Keywords: Patient, expectation, communication, education

Abstract :

It appears there is a disconnect between expectations of patients attending Irish Emergency Services and facilities available to Emergency Physicians. We hope that through studying these perceptions and expectations we can better understand how to interact with, and manage, our patients, and ensure more closely aligned objectives. Frequently Emergency Physicians are presented with chronic patient complaints which may have had, or are undergoing, investigation which cannot be furthered in the Emergency setting, barring acute change in patient condition. Such interactions, often ending in patient frustration and disappointment, can create negative impact on public perception of Emergency Services, whilst affecting job satisfaction when occurring regularly for Physicians. The objective is to gain insight into expectations of patients attending Emergency Departments (ED), especially focussing on patient perspective of presentation appropriateness, foreseen waiting times based on presenting complaint and mode of arrival, and assumptions about referral pathways from ED for immediate and outpatient advanced imaging and specialist medical/surgical team reviews.

This observational study recruited a volunteer patient sample using an anonymous survey with associated patient information leaflet. Eligible patients included adults attending ED, or accompanying next-of-kin in patients lacking capacity to partake, who had yet to be seen by a Physician/Advanced Nurse Practitioner, and whose care would be uncompromised by participation. All twelve survey questions were in checkbox format with brief elaboration sought depending on answer to certain questions. Minimal demographic data was also requested. Prior to public engagement, surveys were trialled for transparency and ease of understanding amongst non-medical hospital staff, and appropriate editing made to facilitate broad patient population engagement. Patients were invited to partake at ED registration; at main Reception, or at Triage if arrival was via ambulance. Completed forms were collected in one of three 'postbox'-style boxes located in the main Waiting Area, main Nursing Station, and Minor Injuries Unit. Although not required, ethical approval was pursued.

Data collection is currently underway in two Irish tertiary EDs, and will be complete at time of EUSEM conference; abstract to be modified with results and discussion of same for conference presentation, if accepted.

Data is entered onto a coded Microsoft-Excel spreadsheet where total numbers and percentages for each question and variable are calculated, after which we analyse figures using Chi-Squared methodology and t-testing to determine numbers needed to recruit to assess any statistically significant differences between patient mode of arrival, mode of referral, or presenting complaint, and patient illness duration, waiting time expectation, and expectation of investigations. We are using hospital Information Technology programmes to obtain actual waiting times per presenting complaint, to ascertain crossover point between patient expectation and reality in this regard.

There is no individual patient follow up. Findings are to be presented at departmental teaching for ED staff education, compiled in a letter to local General Practitioners aiming to manage patient expectation at Primary Care, and displayed on a poster in Waiting Areas of the EDs to inform patients of emergency services available regarding investigations and feasibility of urgent specialist team review, and rationalisation of waiting times.

Trial Registration / Funding Information (only) :

N/A

#22737 : Myocardial infarction diagnosis on an abdominal CT scan

Authors:

carl ogereau (1), Adelia Braganca (2), Hélène Milacic (2), Olivier Peyroni (2), Jean Paul fontaine (3)

1. emergency department, Saint louis Hospital, paris, France
2. ER, Saint Louis Hospital, Paris, France
3. Service des Urgences Adultes, AP-HP Hôpital Saint-Louis, paris, France

Keywords: myocardial infarction, EKG, abdominal CT scan

Abstract :**Background:**

In the Emergency Department, myocardial infarction is one of the most challenging and frequently encountered diagnosis. A typical clinical presentation and patient medical history can ease the diagnosis. However, in case of atypical symptomatology, the diagnosis may be much more complex.

Case description:

32 years old female presenting with severe acute abdominal pain. Past medical history: Spiegel's hernia and Lyme disease. This is the third consultation in one week for the same reason. After the two first consultations, the initial diagnosis was acute gastritis triggered by meals and a treatment with Omeprazol was initiated. Initial blood tests including liver, pancreatic and inflammatory panels came back negative. The EKG was deemed normal

Results & discussion :

Because pain symptoms were worsening, an abdominal CT scan with contrast was performed and reveals a lack of sub-endocardial enhancement the left ventricular apex suggestive of an apical myocardial infarction of the left ventricle. The troponin level was 104 microg/ml (normal rate

Conclusion & perspectives :

Contrary to the common belief that medical imaging can only find what the clinician is looking for, our case report suggest that it may sometimes lead to important incidental findings.

Attachment: poster eusem.pdf

#22739 : Acute cerebral ischemia after wasp stings : A rare neurological complication

Authors:

Woo Han Jung (1), Hyun Ho Jeong (2)

1. Department of Emergency Medicine, Uijeongbu St. Mary's Hospital, Uijeongbu-si, Korea, Republic of
2. Department of Emergency Medicine, Uijeongbu St. Mary's Hospital, Uijeongbu, Korea, Republic of

Keywords: cerebral ischaemia, wasp, anaphylaxis

Abstract :

Hymenopterans are common insects around us, which cause about 100 million stings worldwide every year. Stings may cause local symptoms such as itching, swelling and pain as well as systemic symptoms such as hypotension and anaphylaxis. Neurologic complications such as encephalitis, cerebral edema, cerebral hemorrhage, and infarction are rare. We report a case of cerebral infarction in a healthy male after multiple wasp stings. A 28-year-old man was stung in his neck during the removal of the hive and transferred to hospital. He complained of itching, facial swelling and difficulty of breathing. There was no loss of consciousness and focal neurological deficits. About 30 hours after visit, he suddenly complained weakness of his left extremity. Magnetic resonance imaging was performed, and a cerebral infarction was found in the right middle cerebral artery territory. Carotid duplex ultrasonography, electrocardiography, and lipid profile test were performed to exclude other causes of cerebral infarction. No specific findings were found. Treatment with aspirin, atorvastatin and sufficient hydration were performed. Exercise rehabilitation was also performed. At discharge, he was better than the first, but the left upper arm weakness still remained. The pathophysiology of neurological complications such as stroke is clearly unknown. Cerebral infarction after wasp sting may be caused by hypotension which is following by anaphylactic reaction. It may be caused by vasoconstriction and platelet aggregation due to venomous poisoning. There is also the possibility of triggering by systemic immune response and thrombus formation. Generally, the treatment of life-threatening anaphylaxis after wasp stings is similar to other anaphylactic treatments. Above all, stabilization of airway, breathing, and circulation is important. Injection of epinephrine, intravenous infusion, antihistamine and steroid use are also needed. Neurological complications are rare but can occur after wasp stings, which is caused to allergic and toxic reactions by hymenopteran venom. In this case, it is important to stabilize the hemodynamic state, and steroids and antihistamines should be used. Although there are no guidelines for specific strokes yet, if there is any suspicious symptom of stroke, management should be done in accordance with stroke treatment.

Attachment: fig1..jpg

#22743 : Assessing the survivability of early trauma deaths: a feasibility pilot

Authors:

Price Richard (1), Alasdair Corfield (2), Jones Vicky (3)

1. Royal Alexandra Hospital, Anaesthetic Department, Paisley, United Kingdom
2. Emergency Department, Royal Alexandra Hospital, Paisley, United Kingdom
3. National Services Scotland, Scottish Trauma Audit Group, Edinburgh, United Kingdom

Keywords: trauma; death;

Abstract :

Introduction

Death following trauma is classically described as having a trimodal temporal distribution. The first phase or “early” deaths are often ascribed to unsurvivable injuries. EMRS provide a pre-hospital critical care team to a large area of the West of Scotland, covering rural and urban areas. We aimed to assess the feasibility of analysing the pattern of injuries in a population of patients attended by EMRS, who are “first phase” deaths related to trauma and also assess the feasibility of measuring the reversibility or treatability of the injuries found.

Methods

A convenience sample of six sequential patients who were attended by the EMRS trauma team and were in traumatic cardiac arrest at the time of EMRS team arrival. These data were matched with post mortem results from the regional forensic pathology results. Legal clearance was sought to release the record for medical review.

The post mortem reports for these patients were then examined by an experienced trauma audit coordinator and injuries were coded using Abbreviated Injury Scores (AIS 2005) and an Injury Severity Score (ISS) calculated for each patient.

A multi-disciplinary team consisting of a forensic pathologist, emergency physician, intensive care physician and two retrieval practitioners reviewed the clinical and pathological findings to assess a number of outcomes.

The primary outcome was a 5 point likert scale of survivability in the circumstances of the incident, based on expert consensus.

Secondary outcomes were

5 point likert scale of survivability in ideal circumstances and appropriateness of interventions

Results

A total of 6 patients were included in the study. The median ISS was 43 (range 33 to 57). A summary of AIS codes is given below.

Patient

ISS

Highest AIS

Body area

1

57

5

Thorax

2

45

5

Thorax

3

33

5

Thorax

4

41

4 (x2)

Thorax & Extremity

5

35

5

Head

6

50

5

Thorax

Discussion

Our cohort of patients all had significant traumatic injuries, with a high injury severity score, and five out of six patients had at least one injury coded as critical (AIS=5). None of the patients had an injury currently coded as unsurvivable (AIS=6).

We have demonstrated the feasibility of identifying a cohort of patients, and working through the legal constraints surrounding post mortem paperwork, and coding the injuries found. Further work is required to assess the context of injuries described to make a judgement on potential survivability.

Trial Registration / Funding Information (only) :

No funding

#22745 : Comparison of the efficiency of oral airway and nasal airway inserted in the oral airway during mask ventilation

Authors:

Sung Hoon Chung (1), Seongjoo Park (1)

1. Department of Anesthesiology and Pain Medicine, Seoul National University Bundang Hospital, Seongnam-si, Korea, Republic of

Abstract :**Backgrounds**

The purpose of this study was to investigate the efficiency of nasal airway inserted in the oral airway (ON airway) in securing the airway patency during mask ventilation.

Methods

Fifty eight patients undergoing general anesthesia were randomly assigned to either oral airway group (group O) or ON airway group (group N). In both group, 2 mg/kg of propofol was infused intravenously and mask ventilation was performed in the sniffing position without head extension or jaw thrust. The patients were ventilated with a volume-controlled ventilator with O₂ flow of 10 l/min, tidal volume of 10 ml/kg (IBW), and respiratory rate of 10 /min. Before the start of mask ventilation, airway was placed in the oral cavity. Oral airway was used in group O and ON airway was used in group N. Peak inspiratory pressure (PIP), tidal volume and EtCO₂ were compared between the two groups. The location of airway tip was graded by fiberoptic bronchoscope as; 0: airway obstructed by tongue, 1: epiglottis visible, 2: airway touches epiglottis tip, 3: airway passes beyond epiglottis tip.

Results

Compared with group O, group N significantly decreased the PIP (25.0 [18.0 – 29.0] vs. 18.0 [16.0 – 19.0], $P < 0.001$, Group O and N, respectively) and increased tidal volume and EtCO₂ during mask. In the bronchoscopic findings, airway obstruction was more frequent in group N. ($P < 0.001$).

Conclusions

Compared with oral airway, nasal airway inserted in the oral airway facilitates the mask ventilation by promoting the patency of airway.

#22747 : Pulmonary embolism presenting as a seizure: A case report

Authors:

Yuru Boon (1)

1. Emergency Medicine, Woodlands Health Campus, Singapore, Singapore

Keywords: Pulmonary embolism, seizure**Abstract :**

Despite the relatively high incidence of pulmonary embolism, this potentially deadly diagnosis can be difficult to diagnose in the Emergency Department. We report a case of a 69-year-old female who presented to the Emergency Department with a history of a seizure subsequently diagnosed as submassive pulmonary embolism. The patient's daughter reported that the patient was found unconscious with jerking of her right upper limb the previous night. The patient regained consciousness within a minute but was still observed to be drowsy subsequently for a few minutes and vomited twice. The patient was referred to the Emergency Department the next day after consulting a primary care doctor. She was asymptomatic at the time of presentation and examination was unremarkable with a normal heart rate and oxygen saturation aside from a laceration over the pinna of her right ear. Troponin T was noted to be raised at 214ng/L. A point-of-care ultrasound performed in the Emergency Department demonstrated a dilated right ventricle with straightening of the intraventricular septum raising the suspicion of pulmonary embolism. This was confirmed with a computed tomography scan of the pulmonary arteries which demonstrated pulmonary embolism in both pulmonary arteries. Pulmonary embolism can be challenging for emergency physicians to diagnose as patients present with a variety of symptoms ranging from no symptoms to cardiac arrest. Point-of-care ultrasound is a widely available non-invasive investigation that is now increasingly considered to be part of routine care in the Emergency Department. It can be a valuable adjunct in patients with diagnostic dilemmas and in this patient, was crucial to achieving the diagnosis of pulmonary embolism.

#22748 : Psychological response in undergraduate medical students' during ten minutes of high-fidelity simulation in trauma or non-trauma scenarios. A randomized controlled crossover trial using a manikin model

Authors:

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Carlos Del Pozo Vegas (3), Daniel Viña Guerra (4), Juan Carlos Sánchez Rodríguez (2), Rubén Rivas Martínez (5), Ana Ramajo Sánchez (4), Raquel María Portillo Rubiales (6), Elena Medina Lozano (7), Rubén Herrán-Monge (4), María Blanca Gutiérrez Escribano (3), Alvaro García Aldonza (4), Esther Durá Ballester (8), Miguel Ángel Castro Villamor (9), Ancor Sanz García (10)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
4. ICU, Hospital Universitario Río Hortega, Valladolid, Spain
5. Hospitalization, Hospital Universitario Río Hortega, Valladolid, Spain
6. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
7. Unidad Móvil de Emergencias, Ambuibérica, Valladolid, Spain
8. Primary Care, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
9. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
10. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain

Keywords: Patient Simulation, Anxiety, Clinical response, Team training, Medical Students

Abstract :

Background: Generally, the skills developed through practice with High-fidelity clinical simulation (HFCS) are focused on managing critical situations, such as cases of emergencies, trauma, cardiological problems, etc., where critical decision-making with very little objective data and in a very short period of time it is essential for the survival of the patient.

The objective of this study was to check if the level of anxiety generated by performing a simulation scenario in trauma or non-trauma varies.

Methods: randomized controlled crossover trial using a manikin model on those students of the sixth year of the Medicine degree, between October 1, 2019 and January 15, 2020. The study was carried out at the Faculty of Medicine of the University of Valladolid (Spain).

The State-Trait Anxiety Inventory (STAI), a self-report scale composed of 40 items (minimum value 0 and maximum 3), with high internal consistency (Cronbach's $\alpha=0.90$) was used to measure anxiety level, before and after the simulation. The students randomly performed a non-trauma case (hemodynamically unstable ventricular tachycardia) or a trauma case (severe burn with inhalation syndrome). Categorical variables were represented by absolute value and percentage, and continuous variables were represented by median and interquartile range (IQR) as they did not follow a normal distribution. Additionally, the odd ratio for each variable was assessed.

Results: a total of 150 students were included in our study. The median age was 23 years (IQR: 23-24 years), 65.6% of them were women. 74 students (49.3%) performed a non-trauma scenario, and 76 students performed a trauma scenario.

There were no significant differences by age ($p = 0.312$), sex ($p = 0.460$) or initial STAI ($p = 0.375$). The final STAI presented a median of 25 points (IQR: 21-28) in non-trauma cases, and 23 points (IQR: 20-26 points) in trauma cases, with an odds ratio of 0.92 (95% CI: 0.86-0.99; $p=0.028$).

Conclusions: The design of high-fidelity simulation scenarios directly influences the acquisition of both clinical and non-clinical competencies that are desired to be achieved with each case. Non-trauma

scenarios present higher final levels of anxiety than trauma scenarios, a statistically significant difference. Trauma courses (e.g. Advanced trauma life support®) have been classically considered stressful training, however, our data tells us that training with non-trauma scenarios generates a higher level of anxiety in students. The simulation center facilitators must carry out varied and balanced scenarios at the level of the students, so that the level of anxiety that is generated stimulates the student's but does not block learning.

Trial Registration / Funding Information (only) :

The Ethics and Clinical Research Committee of the Rio Hortega University Hospital in Valladolid approved this study (PI-033/18), which was registered in the International Clinical Trials Registry Platform (doi.org/10.1186/ISRCTN32132176). The present study was in accordance with Good Clinical Practice and the Declaration of Helsinki. The study was coordinated by the Advanced Clinical Simulation Center of Faculty Medicine (Valladolid University). This study is reported in line with the STROBE statement.

#22753 : A case report of posterior shoulder dislocation: an uneasily identified disease

Authors:

Hung-Sheng Huang (1), Chien-Chin Hsu (1), Yu-Ying Liao (2)

1. Department of Emergency Medicine, Chi-Mei Medical Center, Tainan, Taiwan, China

2. Department of Emergency Medicine, Chi-Mei Medical Center, Liouying, Tainan, Taiwan, China

Keywords: posterior shoulder dislocation

Abstract :**Brief clinical history**

A 37-year-old female presented to our emergency department after motorcycle crash into a dog in the evening. The event happened because she couldn't stop the motor while the dog suddenly ran into the road. The crash threw her off the motorcycle and then her left shoulder directly hit to the ground. On arrival, her vital signs were as follows: body temperature 36.5°C, heart rate 89 beats/min, blood pressure 106/68 mmHg, and respiratory rate 18 breaths/min. She was conscious and oriented but complained of pain and inability to move left shoulder. She denied the history of initial loss of consciousness, vomiting or alcohol intake. She had no medical history. Left posterior shoulder dislocation was diagnosed and then close reduction was performed. Afterward, she was discharged with sling fixation.

Misleading elements:

Non-standard radiographic view.

Helpful details

The physical examination showed tenderness and restriction over left shoulder, an obvious palpable gap over left glenohumeral joint, and multiple abrasions over both of forearms, knees and right lower leg. Other system examination was unremarkable. Antero-posterior radiograph of both clavicle view revealed positive lightbulb sign on left humeral head. Left scapular Y view showed equivocally abnormal position between humeral head and glenoid and also revealed left acromion linear fracture.

Differential and actual diagnosis

Contusion of shoulder.

Anterior shoulder dislocation.

Rotator cuff tear.

Posterior shoulder dislocation.

What is the educational

The shoulder dislocation is the majority of dislocated diseases presenting to hospital. Most of them are anterior shoulder dislocation, which is common and easy to identify. However, posterior shoulder dislocation which accounts for 2–4% of total shoulder dislocation cases is occasionally undiagnosed on initial presentation by inexperienced doctors. Doctors could use several special radiological signs to determine if patients have posterior shoulder dislocation. An axillary radiographic view is the idea image to make out a posterior dislocation, although patients sometimes do not follow the special position. Lightbulb sign is one of radiographic signs of posterior dislocation to show lightbulb shape on the head of the affected humerus while the radiography is done from antero-posterior view. A normal scapular Y view shows the image which the humeral head overlies the glenoid and is located at posteriority of the glenoid. However, the scapular Y view of a posterior shoulder dislocation is an image that humeral head uncovers but instead of is more posterior from the glenoid. Other special radiographic views, including of trough line sign, loss of normal half-moon overlap sign, rim sign, and etc., could identify posterior shoulder dislocation as well. As emergency physicians, posterior shoulder dislocation should be kept in mind.

Attachment: 2020 EUSEM A case report of posterior shoulder dislocation.docx

#22755 : Consideration of usage criteria of fibrinogen concentrate for severe traumatic brain injury**Authors:**

Gaku Fujiwara (1)

1. Neurosurgery, Kyoto Prefectural University of Medicine, Kyoto, Japan

Keywords: fibrinogen concentrate, severe traumatic brain injury, traumatic coagulopathy

Abstract :

Background: Traumatic coagulopathy is often observed in patients with severe traumatic brain injury (sTBI). The association between TBI and coagulopathy is well established. Earlier transfusion with high blood product ratios is recommended for severely injured patients, and fibrinogen is known as one of the most important coagulation factor in the trauma field. Fibrinogen concentrate (FC) is widely used for severe trauma patient and its effectiveness is gradually recognized. However, FC for sTBI is less reported and usage criteria is not established. We started to use FC since 2019 after approval of clinical ethics committee and aggressively administer to multiple trauma patients. We aimed to identify predicting factors of fibrinogen declining in order to set the criteria of FC usage for sTBI.

Methods: We retrospectively reviewed successive adults sTBI in our hospital between January 2017 and December 2019. We compared factors between two groups (high fibrinogen group: fibrinogen value is less than 150mg/dL 3-6 hours after arrival, and low fibrinogen group: fibrinogen value is 150mg/dL or more 3-6 hours after arrival). We researched vital signs, laboratory data, findings of computed tomography(CT) and analyze predicting factor.

Results: 50 patients were enrolled. 35 patients achieved fibrinogen value 150 or more, and 15 patients did not. D-dimer on arrival above 50 μ g/mL, skull fracture and depressive skull fracture were strong predicting factors of low fibrinogen group.

Conclusion: Low fibrinogen group should be administered FC. Some laboratory data of Coagulation abnormality demonstrated low fibrinogen as reported. Likewise, skull fracture and especially depressive skull fracture reflect severe coagulopathy in this study and patients without skull fracture is enough treated by using only fresh frozen plasma. Skull fracture has possibility of provoking tissue factors and predicting severe coagulopathy.

#22756 : The prehospital modified rapid emergency medicine score: a bedside clinical tool for the detection of high-risk patients**Authors:**

Francisco Martín-Rodríguez (1), Raúl López-Izquierdo (2), Carlos Del Pozo Vegas (3), Jesús Álvarez Manzanares (2), Virginia Carbajosa Rodríguez (2), Miguel Ángel Castro Villamor (4), Juan Francisco Delgado Benito (5), Tony Giancarlo Vásquez del Águila (3), Ana Valderrey Mielgo (3), Ancor Sanz García (6), Iratxe Moro Mangas (3), Elena Medina Lozano (7), Leonardo Rodrigues (8), Ana Belén López Tarazaga (3), Germán Fernández Bayón (3)

1. Medicine Faculty, Valladolid University, Valladolid, Spain
2. Emergency Department, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario, Valladolid, Spain
4. Medicine Faculty, Gerencia de Atención Primaria Valladolid Oeste, Valladolid, Spain
5. Unidad Móvil de Emergencias, Gerencia de Emergencias Sanitarias, Salamanca, Spain
6. Data Analysis Unit, Health Research Institute, Hospital de la Princesa, Madrid, Spain
7. Unidad Móvil de Emergencias, Ambuibérica, Valladolid, Spain
8. Surgery Department, Hospital Sanatorio de Luanda, Luanda, Angola

Keywords: Triage, emergency medical services, prognosis, clinical decision-making, early warning scores

Abstract :

Background: One of the fundamental tasks of emergency medical services (EMS) is to discriminate the severity of cases and prioritize the evacuation order and the most suitable destination hospital for each situation.

The objective of this study is to analyze the diagnostic precision of the modified rapid emergency medicine score (MREMS) performed at the pre-hospital level to predict the need for admission to the intensive care unit (ICU) or hospital mortality.

Methods: Prospective observational longitudinal study, between October 15, 2019 and February 29, 2020. The study was developed on Valladolid (Spain). All adult patients with acute disease treated consecutively by the emergency medical services and transferred to the emergency department of their referral hospital were included in the study. Patients who did not require evacuation or discharged in situ, cases with terminal pathologies, pregnant women and cardiorespiratory arrest were excluded.

Demographic data (age and gender) and vital signs set (systolic blood pressure, heart rate, respiratory rate, oxygen saturation and Glasgow coma scale) were obtained by the emergency registered nurse during the first EMS contact with the patient with LifePAK® 15 monitor (Physio-Control, Inc., Redmond, USA).

At 30-days of the index event, by reviewing the patient's electronic history, hospital admission and 30-days mortality data and ICU admission were obtained.

The main outcome variable was hospital mortality (within the first 30-days) from any cause. In addition, the ability of the score to predict ICU admission is explored.

The area under the curve (AUC) of the receiver operating characteristic (ROC) of the MREMS was calculated in terms of 30-day mortality and ICU admission. Youden's test was calculated for the cut-off point with better sensitivity and specificity combined.

Results: a total of 177 patients were included in our study. The median age was 62 years (IQR: 42-79 years), with 73 females (41.2%). The 30-day mortality was 13.5% (24 cases). The AUROC for an 8-points cut-off point was 0.786 (95% CI: 0.67-0.89; $p > 0.001$), with a sensitivity of 0.66 (95% CI: 0.47-0.85), specificity of 0.78 (95% CI: 0.71-0.84), positive likelihood ratio of 3.09 and negative likelihood ratio of 0.42.

The ICU admission was 16.9% (30 cases). The AUROC for an 9-points cut-off point was 0.696 (95% CI: 0.58-0.80; p=0.001), with a sensitivity of 0.46 (95% CI: 0.22-0.64), specificity of 0.84 (95% CI: 0.78-0.90), positive likelihood ratio of 2.98 and negative likelihood ratio of 0.64.

Conclusions: The MREMS presents a good discriminative capacity to detect patients with a high-risk of deterioration, either at the level of hospital mortality or ICU admission, with excellent specificity for this particular outcome. EMS should consider the use of early warning scores as a routine procedure within the systematic evaluations carried out in the prehospital scope.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers (reference CEIC: #PI-GR-19-1258, and #CEIC PI-041-19). All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) with registration number GRS 1903/A/19.

#22757 : Increased risk of hepatocellular carcinoma in patients with traumatic liver injury**Authors:**

yenju Chen (1), Mo Shih Ho (1), Shao Hua Yu (1)

1. emergency medicine, China medical university hospital , Taichung, Taiwan, China

Keywords: traumatic liver injury ,hepatocellular carcinoma, incidence

Abstract :**Background:**

Hepatocellular carcinoma (HCC) is the sixth most common cancer worldwide. Liver was one of the most common injured organ in blunt abdominal trauma. The relationship between traumatic liver injury and hepatocellular carcinoma development remains unclear.

Method

Using the National Health Insurance Research Database of Taiwan, we identified patients with traumatic liver injury between 2000 and 2013. We then frequency matched 63,864 patients without traumatic liver injury from the general population according to age, gender, occupation and index year. Cox proportional hazard models was performed to determine the Hazard ratios (HRs) and 95% confidence intervals (95% CIs) of the occurrence of hepatocellular carcinoma in the traumatic liver injury cohort compared with that in the non-traumatic liver injury cohort.

Result

A total of 15,966 patients with traumatic liver injury were identified during the study period. There was excess risk of HCC development in patients with traumatic liver injury (aHR2.13, 95% CI: 1.59-2.85). Increased risk of liver cancer in patients with traumatic liver injury is more pronounced within one year after injury (aHR 8.84, 95% CI =4.29-18.2). When the follow-up period > 1 year, patients with traumatic liver injury remained have 1.53-fold risk of getting hepatocellular carcinoma than patients without traumatic liver injury (95% CI, 1.08-2.15).

Conclusion

In this nationwide population base study, we found a higher incidence of HCC among people with traumatic liver injury. The risk is especially higher within the first year after traumatic liver injury.

#22758 : Pilot study comparing ventilation modes during cpr with automated mechanical chest compression device

Authors:

Florian Dorfhuber (1), K Friedrich Kuhn (2), Kristina Fuest (1), Marco Lorenz (2), Bettina Jungwirth (1), Karl-Georg Kanz (3), Manfred Blobner (1), Stefan J Schaller (2)

1. Technical University of Munich, Klinikum rechts der Isar, Department of Anesthesiology and Intensive Care, Munich, Germany
2. Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Charité, Department of Anesthesiology and Surgical Intensive Care, Berlin, Germany
3. Technical University of Munich, Klinikum rechts der Isar, Department of trauma surgery, Munich, Germany

Keywords: resuscitation, out-of-hospital cardiac arrest, ventilation, ventilators, cardiopulmonary resuscitation

Abstract :**Background**

Current cardiopulmonary resuscitation (CPR) guidelines lack statements of appropriate mechanical ventilation if automated mechanical chest compression devices (AMCCDs) are used. Aim of this pilot study was to compare three common ventilation modes during CPR with AMCCD.

Methods

This randomised prospective pilot study was conducted at the Technical University Munich between 01.11.2017 and 12.12.2019. Patients suffering from an ongoing out-of-hospital cardiac arrest treated with an AMCCD and an endotracheal tube in place were included in the resuscitation room as long as the attending expected to continue with the resuscitation for another 15 minutes. Randomization assigned to the three groups "biphasic positive airway pressure with assisted spontaneous breathing" (BIPAP-ASB), "continuous positive airway pressure" (CPAP) and "volume-controlled ventilation" (VCV) using an Oxylog3000® (Drägerwerk AG & Co. KGaA, Lübeck, Germany). For safety reasons the treating team was allowed to change ventilation whenever clinically necessary. The primary outcome was the mean tidal volume (VT) during the study period. Secondary outcomes were mean minute volume (MV) and mean end-tidal CO₂ (etCO₂). Statistical analysis was done using R version 3.6.2. with Kruskal-Wallis-test and Mann-Whitney-U-test for post-hoc analysis.

Results

We screened 53 patients of whom 30 patients were randomized, analyzing ten patients in each group. Patients were mainly male (80%), with a mean age of 65 ± 16 years. Since two patients never received the assigned ventilation mode intention-to-treat (ITT) and per-protocol (PP) analysis were performed. In the ITT analysis there was a significant difference in VT with median 242 [IQR 137-435] ml, 68 [64-106] ml and 200 [158-278] ml in the BIPAP-ASB, CPAP and VCV group, respectively (p = 0.010 ITT and p=0.001 PP). Post-hoc analysis showed a significant difference of CPAP compared to BIPAP-ASB and VCV (all p<0.05 in ITT and PP). There was no significant difference in the secondary outcome parameters MV 7.0 [5.2-9.6] l/min, 6.3 [5.3-6.8] l/min, 7.3 [3.6-7.9] l/min and etCO₂ 25.6 [20.12-33.5] mmHg, 17.6 [10.2-26.1] mmHg, 31.8 [23.4-38.3] mmHg in above order in ITT. The results in PP showed differences in etCO₂ (p=0.047) and PEEP (p=0.017).

Discussion & Conclusion

This pilot study showed a significant lower tidal volume with CPAP compared to BIPAP-ASB or VCV during CPR with AMCCD.

We showed previously in a case series that CPAP seem to result in adequate ventilation in CPR with AMCCD. Bertrand et al. suggested using a constant flow insufflation of oxygen during AMCCD resuscitation is reasonable. This study confirms that an adequate respiratory minute volume can be achieved even with CPAP, however, with very small tidal volumes. Such low tidal volume could possibly result in dead space ventilation with the risk of inadequate oxygenation. Evidence of sufficient peripheral oxygenation by CPAP exists only from an animal study by Hevesi et. al. of 18 pigs.

In conclusion, all ventilation modes achieved an adequate MV, however, BIPAP-ASB and VCV seem to be superior in CPR with AMCCD to achieve an adequate VT. Therefore we would recommend using those ventilation modes primarily at the moment.

Trial Registration / Funding Information (only) :

Trial Registration: Clinicaltrials.gov NCT03347175 Funding: This study did not receive any specific funding. Ethical approval and informed consent: This study was reviewed and approved by the ethical committee of the Medical Faculty of the Technical University of Munich (No 159/17).

#22759 : A Bechet's disease patient presented as Sinus of Valsalva aneurysm

Authors:

Yu Ying Liao (1), Hung-Sheng Huang (2)

1. Department of Emergency Medicine, Chi Mei Medical Center, Liouying, Tainan, Taiwan, China
2. Department of emergency medicine, Chi Mei medical center, Tainan, Taiwan, China

Keywords: Bechet's disease, sinus of Valsalva aneurysm

Abstract :**Brief clinical history:**

A 28-year-old male presented at our emergency department (ED) due to productive cough, mild dyspnea and intermittent fever for 3 days. Physical examination revealed coarse breathing sound and his chest x ray (CXR) showed increased lung marking at both lower lung fields. Bronchopneumonia was diagnosed and oral form antibiotics was given. Because of feeling mild dyspnea, he stayed in our observation section.

During the observation, he presented worse dyspnea and cyanosis in about 20 hours later. The CXR revealed air-space fillings and infiltrates in both lung fields. We placed endotracheal tube. Severe aortic regurgitation (AR) was diagnosed on the echocardiography. The chest computed tomography (CT) revealed dilated aortic root (maximal diameter about 4cm). Sinus of Valsalva aneurysm with severe AR and pulmonary edema was diagnosed, and the patient had received emergency aortic valve and sinus of Valsalva aneurysm repair.

After repair surgery, his condition was improved smoothly. However, scrotal ulcer, hyperpigmentation over lower limbs and recurrent oral ulcer were noted. Antinuclear antibody, Anti-ds DNA, Anti-SmD3, Anti-RNP, Complement C3c and C4 were all negative. Bechet's disease (BD) was diagnosed, and we provided Prednisolone and Colchicine. After discharged, he was doing well at two-year follow-up until now.

Misleading elements:

The patient had productive cough, mild dyspnea, and fever for 3 days. The CXR showed increased lung marking at both lower lung fields. Therefore, we thought the symptom of dyspnea was just caused by lung infection.

Helpful details:

Severe AR was diagnosed on the echocardiography. The CT revealed dilated aortic root (maximal diameter about 4cm). These all helped us to diagnose SOVA.

Differential and actual diagnosis:

Sinus of Valsalva aneurysm (actual diagnosis), acute respiratory distress syndrome, myocarditis or endocarditis with heart failure and pulmonary edema.

Educational and/or clinical relevance:

Sinus of Valsalva aneurysm (SOVA) is an abnormal dilatation of the aortic root area between the aortic valve annulus and the sinotubular ridge, and can be either congenital or acquired. Vasculitis is one of the etiologies of acquired SOVA. The patient has Bechet's disease, which is an immune-mediated vasculitis affecting vessels of all sizes, may be the reason why he has SOVA. BD can be recognized only by clinical finding, and the International Study Groups for BD criteria (oral ulcer plus any two of recurrent genital ulcer, typical eye lesions, cutaneous lesion, or a positive skin pathergy test) is the most commonly used diagnostic tool. Therefore, detail history taking and physical examination are very important for diagnosing BD. BD with involvement of the heart is called Cardio-BD, and James et al. demonstrated SOVA was the leading causes of death. Non-ruptured SOVA is usually asymptomatic, but 30% to 50% of SOVA is associated with significant AR. The patient had lung infectious symptoms, which might exacerbate the symptoms of AR. Surgical intervention is recommended for SOVA with significant AR or a ruptured SOVA. Surgical mortality ranges from 1.9% to 3.6%, and survival rate is closed to 90% after 15 years. Therefore, early surgical intervention should be considered before worsening symptoms.

#22760 : RUSH, a nitrite volatile, induced methemoglobinemia

Authors:

Shih Hao Liu (1)

1. emergency department, China Medical University Hospital, Taiwan, Taichung, Taiwan, China

Keywords: RUSH, Poppers, nitrite, methemoglobinemia

Abstract :

A 39-year-old male with past history of depression presented with dyspnea and cyanosis for 2 days, and was sent to our emergent department. On examination, he had cyanotic fingers, feet, toes and lip. The oximetry read 84% under the non-rebreathing mask oxygen supplement. The vital signs demonstrated as following: blood pressure 141/95mmHg, heart rate 126bpm, respiratory rate 35/min, body temperature 38.3° C. The patient had clear consciousness, and denied any upper respiratory infection symptoms. His breath sound was symmetric and clear. Chest x-ray was not remarkable. ECG showed sinus tachycardia. The patient claimed that he had used some kind of “fragrance oil” in his room more than 1 week, and couldn’t help snorting it every 10 minutes. We considered the tentative diagnosis as carbon monoxide intoxication, pneumonia, or systemic asphyxia intoxication. The color of arterial blood sampling showed chocolate brown color, and the lab data revealed methemoglobinemia (MetHb 40.9%). In fact, the patient had snorted “Poppers”, aka “RUSH”, street name of nitrite volatile, every 10 minutes while awake in the past 7 days.

Methemoglobin is formed by oxidation from heme reduced Fe²⁺ (ferrous) state to an oxidized Fe³⁺ (ferric) state, which can not carry oxygen, and lead to tissue hypoxia. Normal physiological concentrations of methemoglobin is approximately 1–2%. Many drugs are known to cause acquired methemoglobinemia, but few are abused, and RUSH, amyl nitrite, is one exception.

Methemoglobinaemia is difficult to diagnosis unless there is a suspicion in doctor’s mind. The clue is patient presents with a history of drug abuse and has low oxygen saturation despite 100% oxygen supplement. Moreover, Poppers also have potentially drug-dependence. A clinician must include methemoglobinemia in the differential diagnosis of any patient that presents with severe cyanosis.

#22764 : Evaluation of cutoff values in acute paracetamol overdose following the guideline of the United Kingdom**Authors:**

Hyun Ho Jeong (1), Kyungman Cha (2), Kyoung Ho Choi (1), Byung Hak So (3)

1. Department of Emergency Medicine, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea, Uijeongbu, Korea, Republic of
2. Department of Emergency Medicine, Suwon St. Vincent Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea, Suwon, Korea, Republic of
3. Emergency department, The Catholic University of Korea, St. Vincent's Hospital, Suwon, Korea, Republic of

Keywords: paracetamol, acetaminophen, overdose, poisoning

Abstract :**Background**

Risk prediction for hepatotoxicity in acute paracetamol (AAP) overdose has been dependent on the classic nomogram, but the emergency medical centers in some developing countries do not have laboratory resources to provide drug level in time. The Medicines and Healthcare Products Regulatory Agency (MHRA) and the Commission on Human Medicines in the United Kingdom revised the guideline in 2012, which recommends that the treatment threshold for the patients who ingested more than 75 mg/kg in 24 hours, should be lowered to '100-treatment line' without risk stratification of hepatotoxicity. The primary aim of the study is to evaluate the optimal AAP dose that could be used as cutoff value for N-acetylcysteine (NAC) treatment in the environment that AAP serum level cannot be provided in time.

Methods

Data were collected retrospectively from two emergency departments (ED) that more than 60,000 patients visit annually, between 2010 and 2017. Inclusion criteria were acute single AAP intoxication with dose ≥ 75 mg/kg, visited ED in 15 hours after overdose and over 14-year old. The trend of change in the frequency of toxic level with increasing dose was determined by chi square test for trend. The sensitivity, specificity of 100, 125, 150 and 175 mg/kg for the level above 100-line were calculated.

Results

A total of 196 patients were enrolled in the primary analysis. 187 patients (95.4 %) were intentional self-harm attempt and the majority of the patients, 166 (84.7 %) were overdosed with extended-releasing tablets, compound preparation with caffeine, decongestants, antihistamines or cough suppressants, or medications of other different classes. 56 of 196 subjects (28.6 %) showed AAP toxic serum level on the first test. 6 subgroups were created by 25 mg/kg of reported dose per weight. There was positive trend that the higher intoxicated dose per weight, the higher the frequency of toxic concentration in the first AAP serum level test (chi square test for trend, chi square=7.63, p-value = 0.0057). The sensitivities for predicting serum AAP toxic levels over the 100-treatment line at, ingestion doses of 100, 125, 150, and 175 mg/kg were 85.7%, 76.8%, 69.6%, and 60.7%, respectively, while the corresponding negative predictive values were 77.1%, 80.3%, 80.5%, and 79.4%, respectively.

Discussion & Conclusions

Following the revised UK guideline that lowered the treatment line to 100 mcg/ml on 4-hour and 15 mcg/ml on 15-hour without risk stratification of hepatotoxicity, for the patients over 14-year old, visited ED in 15 hours after acute single AAP overdose, the dose over 100 mg/kg can be safely suggested as a toxic exposure for NAC antidote therapy.

Trial Registration / Funding Information (only) :

Funding This study did not receive any specific funding Ethical approval and informed consent The study protocol was evaluated and approved by the Catholic University Institutional Review Board (no. XC19REDI0011V) and the need for informed consent was waived.

#22765 : Clinical features, disease progression and responses for the first 69 patients infected with the 2019 novel coronavirus (COVID-19) representing a broad spectrum of disease severity in Hong Kong

Authors:

Ka Chung Abraham Wai (1), Yuen Ha Janet Wong (1), King Ho Carlos Wong (1)

1. Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong

Keywords: #COVID-19 #Hong Kong #population-based #Epidemiology

Abstract :**Background**

The initial case of the global outbreak of Coronavirus Disease 2019 (COVID-19) in Hong Kong was announced on January 23rd, 2020, after the outbreak in Mainland China. This territory-wide cohort descriptive study analyzed the first 69 confirmed cases to describe the epidemiological and clinical features of patients with COVID-19, their treatments, outcomes and clinical responses.

Method

Between January 22nd, and February 22nd, 2020, 69 patients with COVID-19 were hospitalized in public hospitals, under Hospital Authority. Electronic medical records of patients were retrieved from Clinical Data Reporting & Analysis System of Hospital Authority by our research team. Epidemiological, clinical, laboratory, and radiological characteristics, treatments and patient outcomes were obtained for all patients confirmed with COVID-19 infection.

Result

As of March 2nd, 2020, 31 (44.9%) were hospitalized, 36 (52.2%) were discharged, and 2 (2.9%) were deceased. The mean age was 56.5 years (SD: 16.1) and 55.1% were male. The most common symptoms at onset of illness were fever (87.0%) and cough (81.2%). Time from infection to symptom onset (incubation period) was 7.1 days (SD: 3.6), while time from onset to first hospital admission, and time from hospitalization to discharged were 7.2 days (SD: 4.2) and 14.3 days (SD: 4.7). Among 69 patients, there were 38 (55%) classified as mild severity, 20 (29%) classified as severe and 11 (16%) classified with critical condition. For in-patient treatment, 89.9% of patients were on pharmacological treatment of Ribavirin (63.8%), Kaletra (89.9%), and Interferon (27.5%). For the 11 critically ill patients, 6 were under intubation, 3 needed mechanical ventilation and 2 needed hemodialysis. During hospitalization, critically ill patients developed increased lymphopenia, white blood cell counts and neutrophil counts, blood urea and creatinine level over time.

Conclusion

This is the first study presented the clinical characteristics and treatment outcomes of patients confirmed with COVID-19 on the full spectrum of disease severity outside Mainland China.

Trial Registration / Funding Information (only) :

UW20-112 HKU/HA HKW IRB

#22766 : Territory-wide Epidemiology of Sepsis in Hong Kong: 2009-2018**Authors:**

Ka Chung Abraham Wai (1), King Ho Carlos Wong (1), Yuen Ha Janet Wong (1)

1. Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong

Keywords: #sepsis #HongKong #epidemiology

Abstract :**Introduction**

The World Health Organization and World Health Assembly made sepsis a global health priority, by adopting a resolution to prevent, diagnose, and manage sepsis in May 2017. Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection. Even though sepsis is the leading cause of death from infection and a major public health concern in most countries, yet the epidemiology of this condition is insufficiently described.

Objective

To describe the burden of sepsis on the public healthcare system in Hong Kong.

Method

The research team has collected clinical data on patients with sepsis over 2009-2018 and follow up their health service utilisation data till end of 2019. We used a territory-wide clinical database of the Hospital Authority in Hong Kong. Patients with sepsis were identified by ICD-9-CM codes for infection and organ dysfunction from 2009 to 2018.

Results

During the 10-year study period, we identified 80,717 hospital episodes involving 20,657 patients, with sepsis from 25 public hospitals, of whom elderly aged ≥ 80 accounted for the most (46.3%), followed by young elderly aged 65- <80 (31.2%), patients aged 40- <65 (19.4%), and young adults aged 18- <40 (3.1%). Male to female ratio was 1.35. The common types of end-organ dysfunction were respiratory dysfunction (48.8%), heart failure (30.4%), and kidney failure (30.1%). Overall the episodic mortality rate was 0.632. The 1-month, 12-month, and lifetime mortality rates due to any causes were 0.512, 0.670, and 0.786, respectively.

Conclusion

Even as an advanced health care system, sepsis is still a big challenge. Given that Hong Kong is a rapidly ageing society, the burden of sepsis on public system would be persistent and worsening for time being. Further study is needed to develop a system that facilitates prediction of organ dysfunction among infective patients, and to develop a strategy to prevent sepsis in the community.

#22767 : Analysis of the Treatment-Time Reduction of ST elevation Myocardial Infarction Patients Transferred by Helicopter-based Emergency Medical Services in Korea**Authors:**

Choi Han Joo (1), Han Kyoung Hee (2), Choi Yong Hyun (1)

1. Emergency Medicine, Dankook University Hospital, Cheonan, Korea, Republic of
2. Gynecology, Wonju Severance Hospital, Wonju, Korea, Republic of

Keywords: air ambulance, emergency helicopter, emergency medical services, ST elevation myocardial infarction

Abstract :

Background: ST-elevation myocardial infarction (STEMI) requires timely reperfusion therapy and the first medical contact to percutaneous coronary intervention (PCI) time within 120 minutes is recommended . Hence early recognition and rapid transportation of the STEMI patients to the PCI-capable hospital are important. This study was conducted to analyze the time reduction effect of the STEMI patients who were transferred by helicopter.

Methods: This was a retrospective, single-center study. The study period was from 2016 to 2017. An air ambulance is available with our hospital and 24-hour PCI is capable. We selected STEMI patients who were transferred from other hospitals in 6 regions. We compared the transfer distances, time factors, treatment outcomes between those transferred by helicopter and those transferred by ambulances.

Results: Among total 88 STEMI patients from 6 regions, 38 (43.2%) were transferred by helicopter and 50 (56.8%) were by ambulances. Average transfer distances were longer in helicopter-transfer group (92.7 vs. 82.4 km, $p=0.004$). Transfer time, call-to-lab time, door-to-balloon time, FMC-to-PCI time were shorter in helicopter-transfer group. The proportion of FMC-to-PCI within 120 minutes were higher in helicopter-transfer group (40.5 vs. 11.4%, $p=0.002$).

Discussion & Conclusions: The helicopter-transfer reduced FMC-to-PCI time including transfer time and call-to-lab time. Therefore higher proportion of time-targeted treatment was achieved.

#22768 : Impact of Interprofessional Crew Resource Management Training on Teamwork in Clinical Education of Medical and Nursing Curricula**Authors:**

Ka Chung Abraham Wai (1), Yuen Ha Janet Wong (1)

1. Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong

Keywords: #IPE #Teamwork #CRM #safety

Abstract :**Introduction**

Effective teamwork is one of the critical components of maintaining patient safety. With the notions of interprofessional teamwork training obtained widespread acceptance at healthcare workplace, the training should be introduced in medical and nursing curriculum for both theoretical and clinical learning. This study aimed to develop and evaluate an interprofessional simulation-based Crew Resource Management (CRM) training on teamwork of medical, nursing and pharmacy students in Hong Kong.

Methods

A mix method research design was adopted. A total of 47 students who studied medical, nursing or pharmacy course in a university in Hong Kong were invited to this study. They were asked to study online materials of CRM that consists of two case scenarios before participating a 2-hour simulation session. Their attitudinal shifts related to teamwork behaviours, perceptions of team-based learning, and teamwork performance were accessed using Human Factors Attitude Survey, Team-Based Learning Student Assessment Instrument and Ottawa Global Rating Scale respectively. Four focus group interviews were conducted after the training sessions. A semi-structured interview guide with open-ended questions was used. Thematic analysis was conducted with the interview data.

Results

After the simulation, there was an increase in the participants' attitudes on teamwork, however, there was no significant difference on increasing positive attitudes between blended team based learning (TBL) plus simulation and simulation only groups (estimate = 1.76, 95% CI [-8.59, 5.06], $p = 0.61$). In both groups, students were satisfied with the simulation activities and felt accountable to their learning. Compared with simulation only group, students in blended TBL plus simulation group preferred team-based learning to lecture ($p = 0.04$). Regarding the teamwork performance, it was noted that these teams all improved in teamwork behaviour (Blended TBL+ Simulation group with mean change = 8.33, SD = 6.62 and Simulation Only group with mean change = 10.67, SD = 1.63). However, the difference in performance between Blended TBL + Simulation and Simulation-only groups were not statistically significant (p -value = 0.42). For the qualitative findings, four themes emerged were: (1) reconsidering professional roles in managing patients; (2) embodying the experience to share responsibility and complement each other; (3) realizing the importance of trust and communication; and (4) engaging to achieve the mission within limited time.

Conclusion

This study provided evidence of the effect of inter-professional simulation on teamwork education. Participants displayed extensive understanding on fundamental teamwork principles. Further research on the design of incorporating inter-professional education in clinical education curriculum via simulation as the pedagogy is needed.

Trial Registration / Funding Information (only) :

UW 18-183, HKU/HA HKW IRB

Authors:

Ahmer Irfan (1), Anna Rose (2), Bryn Roberts (2), Steven Foster (3), James Huntley (4)

1. Department of Surgery, Johns Hopkins Hospital, Baltimore, USA
2. Surgery, Queen Elizabeth University Hospital, Glasgow, United Kingdom
3. Department of Emergency Medicine, Royal Hospital for Sick Kids, Glasgow, United Kingdom
4. Department of Orthopaedic Surgery, Sidra Healthcare, Doha, Qatar

Keywords: Irritable Hip, Epidemiology, Glasgow

Abstract :**Background**

A 'limping child' commonly presents to the emergency department (ED). In the absence of trauma, many are diagnosed with Irritable Hip (IH). The aetiology of IH is not well understood and there may be geographical and seasonal variations. We previously established one year (2016) epidemiological data pertaining to IH presenting to the ED in Glasgow, Scotland. The sentinel findings were (i) an age distribution shift to younger (peak at age 2), (ii) no marked association with social class, and (iii) a spring preponderance. We sought to strengthen or refute these findings by replicating our study with a further one year (2017) of comparative data.

Methods

A retrospective analysis was performed of all children discharged from the Glasgow Children's Emergency Department from January to December 2017. Relevant discharge codes were determined, and patient records screened. Any patient not having a discharge code had their presenting complaint and medical record screened. This cohort was compared to that of the previous published study in the Glasgow ED from January to December 2016.

Results

There were several findings to support the general conclusions of the 2016 study. The incidence was similar - 362 cases were diagnosed in 2017, compared to 354 in 2016. The boy-girl ratio was consistent across both sets, 2:1 and 1.9:1 respectively. The mean age of presentation was similar (3.3 vs 3.5 years) across both years, with an identical median (3 years) and peak (2 years). There was no incidence variation or influence discernible by social deprivation in either cohort. However, in 2016, a spring preponderance was seen; this was not demonstrated in the 2017 cohort, which showed an autumn preponderance. Pooling the data from the two cohorts, 93% (n=668) of patients were managed exclusively by ED physicians, with 70% (n=504) not requiring any further follow up. The majority of patients who required follow-up were seen in ED run clinics (169/212, 79.7%). No patients who were diagnosed initially as IH were found to have septic arthritis.

Conclusion

In this follow-up study, we found re-demonstration of (i) a younger age profile than other studies, and (ii) no association with social deprivation. The major difference between the two cohorts concerned the apparent seasonal peaks: spring for 2016, and autumn for 2017. This difference does not of itself negate the 'antecedent infection' hypothesis, but any such aetiological theory should be capable of accounting for this discrepancy. Additionally, our studies seem to highlight that the majority of these patients can be safely managed in the ED, without onward speciality referral.

Trial Registration / Funding Information (only) :

No funding source for this study

#22776 : Correlation between blood glucose level at admission and outcome in young adults with ST elevation myocardial infarction in Emergency department : observational study

Authors:

houda ben soltane (1), Ahmed Guesmi (1), sarra zaouali (1), Mariem khrouf (1), zied mezgar (1), Mehdi Methamem (1)

1. urgences , farhat hached, sousse, Tunisia

Keywords: blood glucose, st elevation myocardial infarction, correlation, outcome

Abstract :

Background: several factors are implicated in the aggravation of acute coronary syndrome in young adults with ST elevation myocardial infarction and as result more tragic consequences.

The aim of this study is to evaluate the correlation between admission blood glucose level and short and long term prognosis in young patients with ST elevation myocardial infarction (STEMI) admitted to the emergency department

Methods: It is a retrospective study performed in the emergency department of Farhat Hached Sousse during 2 years (January 2017 to December 2019). Patients were included if the diagnosis of STEMI was established and their age was less than 50 years old, in all patients demographic data were recorded and blood glucose level at admission was measured. Follow up was performed at one week, day 30, 6 months post cardiology department discharge to evaluate outcome (clinical complications and survival status). Comparison between patients with and without complications (death, cardiovascular adverse events) was performed using multivariate analysis to assess potential significant risk factors including admission hyperglycemia.

Results: 114 patients were included. The mean age 41.61 ± 5.48 years with a sex ratio of 1.325, 22.8 % have diabetes, 14.9% have hypertension and 13.3% have history of coronary disease.

70% use tobacco. The average TIMI Score noted was 2.

The biological analyses showed an average blood glucose level at admission at 1.69 g (+-0.73) and troponine levels at 14.4

At the hospital phase, the overall mortality was 0%. In multivariate analysis, delay pain-angioplasty, territory on ECG ($p=0.02$), kinetic on echocardiography, blood glucose level ($p=0.018$), the result of angioplasty, score TIMI ($p<0.001$) were the

factors most correlated with the occurrence of complication in the hospital phase. The 6-month overall MACE rate was noted in 22, 8 % of cases.

Conclusion: In this study we find an association between admission hyperglycemia elevation, territory ECG of STEMI, TIMI risk score and worse prognosis in STEMI

#22777 : Estimated lost years of life in the emergency department farhat hached in sousse : observational study

Authors:

Ahmed Guesmi (1), houda ben soltane (1), thouraya trimech (1), Elee Sghaier (1), Mariem khrouf (1), zied mezgar (1), Mehdi Methamem (1)

1. urgences , farhat hached, sousse, Tunisia

Keywords: lost years of life, emergency departement

Abstract :

Background : This work, carried out in the emergency department of Farhat Hached Hospital in Sousse, aims to estimate the number of years of life lost following a premature death .

Methods : We used the mortality statistics for the year 2019. We have adopted for the various calculations the approach proposed by the World Health Organization as described by Murray and Lopez.

Results : The crude lost years rate was 14.63 per 1,000 inhabitants in 2019. Diseases of the circulatory system (31%) and diseases of the respiratory system (28.2%) were the most providers of lost years followed by cancers (14.35%) and external causes of death (traffic accidents, falls, etc.) (12.44%). the classification of causes highlights three major groups of pathologies which stand out strongly from the others: diseases of the circulatory system, tumors and external causes.

Discussion and conclusion :The study highlights the major share of non communicable diseases in the loss of years of life in our region. These results should encourage our health system to devote more interest in the fight against these diseases as well as to cancer screening. Lost years of life therefore seems to be a particularly suitable indicator for public health decision-making.

#22778 : Predictive score of severity in diabetic ketoacidosis : a new algorithm for emergency management : observational study**Authors:**

houda ben soltane (1), Ahmed Guesmi (1), Marwa Talbi (1), Mariem khrouf (1), zied mezgar (1), Mehdi Methamem (1)

1. urgences , farhat hached, sousse, Tunisia

Keywords: predictive score , severity , ketoacidosis , emergency

Abstract :

Background : Ketoacidosis remains a major clinical problem under our skies. Indeed, its incidence continues to increase and affects more and more varied populations. The related mortality and morbidity speak for themselves. This metabolic disorder constitutes one of the main reasons for admission to the emergency services of the diabetic population, particularly insulin dependent.

The aims of our study is to

- Evaluate the epidemio-clinical and evolutionary profile of the population admitted to emergency for diabetic ketoacidosis
- Develop a severity score through a single and multi-varied analysis which will allow us to classify patients and therefore prioritize their management.

Results:

We included 176 patients with ACD. The mean age was 35.3 +/- 18.6 years, and the sex ratio = 0.77. Diabetes was known in 150 patients (85.2%) of whom 60.8% were type 1 diabetics. The most frequent decompensation factors were infection in 36.9% and discontinuation of treatment in 23.9%. The average blood glucose was 28 +/- 7.6 m mol / L, the average pH = 7.14 +/- 0.12, HCO₃⁻ = 7.9 +/- 3.98 m mol / L. The results of the multivariate logistic regression analysis by stages were used to develop a clinical and para-clinical severity score, to detect patients who will be treated in an intensive care unit upon admission to the emergency room.

This score, called the Farhat Hached predictive ACD severity score (Table 1) contains : initial glasgow score, initial pH, blood glucose, creatinine level, bicarbonate level and osmolarity, and it will allow us to classify patients according to their clinical-biological severity and therefore better manage them in the most appropriate environment.

Our population can then be classified into two severity groups, based on this score: low = 1.3% (1/78), and high = 12.2% (12/98) [OR (95% CI), 10.7 (1.36-84.5)] (spreadsheet 2). This score has a high predictive power (Area under the curve is 0.863, with 100% sensitivity and 71.2% specificity . The mortality rate during hospitalization was 2.8%.

Conclusion: Diabetic ketoacidosis occurs in young people treated with insulin therapy. Infection appears to be the most implicated factor in decompensation. A Score greater than 3 is predictive of severity requiring care in an intensive care setting with a mortality rate remaining low thanks to this strategy.

#22779 : Clinical usefulness of procalcitonin in febrile infant below 3-month old visiting pediatric emergency room. A retrospective single center study

Authors:

junsung park (1)

1. pediatric emergency department, seoul asan medical center, seoul, Korea, Republic of

Keywords: Infant, Neonate, Procalcitonin, Sepsis

Abstract :**Background**

Neonate and infant under 3month of age are vulnerable to bacterial infection and most of them visit hospital via pediatric emergency room. That's why it is necessary to perform extensive tests and start immediate treatment in emergency room when they reveal febrile manifestation. For reducing unnecessary admission and treating empiric antibiotics preventing sepsis, it is necessary to developing efficient biomarker distinguishing bacterial infection. Recent studies reported procalcitonin as highly sensitive biomarker of sepsis in both adult and children. In this study, we verified usefulness of procalcitonin as biomarker for identifying bacterial infection and for determining disposition of febrile infant below 3-month old in pediatric emergency room setting.

Method

We recruited patients presenting with fever under 3-month of age and reviewed their medical reports retrospectively who have visited seoul asan medical center pediatric emergency room between November 2017 to June 2018. Preexistent criteria of admission for febrile infant suspecting sepsis is fulfilling any of the followings; body temperature $\geq 39^{\circ}\text{C}$, viewing septic appearance, white blood cell (WBC) count $\geq 20,000 \times 10^3/\mu\text{L}$ or $\leq 5,000 \times 10^3/\mu\text{L}$, C-reactive protein (CRP) $\geq 2.0\text{mg/dL}$, pyuria in urinalysis, consolidation in chest x-ray. Including tests above, we conducted procalcitonin sampling, molecular biologic test and cerebrospinal fluid (CSF) study as needed.

Result

We included 150 febrile infant of age under 3-month old. A group presented positive in bacterial culture in any specimen has higher level of procalcitonin compared to culture negative group (3.01ng/mL vs 0.30ng/mL, $p < 0.001$). Sensitivity and specificity of procalcitonin are 47.06%, 91.25% respectively, which is not inferior to those of CRP (62.5% and 91.27% respectively).

Biomarkers showing correlation with procalcitonin were CRP, body temperature, diastolic blood pressure, neutrophil proportion, absolute neutrophil count (ANC) ($p < 0.001, 0.017, 0.046, 0.003, 0.007$ respectively)

Conclusion

Procalcitonin is useful biomarker for distinguishing bacterial infection in acute onset febrile infant of age under 3-month old who are visiting pediatric emergency room.

#22780 : Management of Acute coronary syndrome in young adults in emergency department : an observational study**Authors:**

houda ben soltane (1), Ahmed Guesmi (1), sarra zaouali (1), Mariem khrouf (1), zied mezgar (1), Mehdi Methamem (1)

1. urgences , farhat hached, sousse, Tunisia

Keywords: acute coronary syndrome, young adults, emergency

Abstract :

Background: Acute coronary syndrome (STEMI) is a public health problem especially for young patients who will suffer from its impact on their quality of life.

The aim of our study is to determine the clinical characteristics, evaluate the therapeutic aspects in the emergency room, and to establish the prognostic factors of STEMI in young patients.

Methods: This is a retrospective, descriptive, study of 114 patients aged less than 50 years and admitted for STEMI. The study lasted three years (January 2017-December 2019). Study location: Farhat Hached emergency department in Sousse.

Results: The average age was 42 years and a clear male predominance with a sex ratio of 13.25. Smoking is the main risk factor in this age group (74.4% of the population). Patients were transferred from peripheral emergencies in 46.3% of the cases. The means of transport was mainly a category A ambulance. The average time to consultation was 4.01 ± 4.028 hours after first clinical sign. A typical chest pain was present in 85.4%. The anterior territory is the most affected. Echocardiography showed a good ejection fraction in 59.1%. Angiographic exploration revealed a predominance of mono-truncated lesions. The revascularization strategy was primary angioplasty in 54% of cases, fibrinolysis was performed in 46% of cases. Rescue angioplasty was required 11%. The average door-to-door time was 5.07 ± 2.589 hours. The main complications in the acute phase were marked by the occurrence of shock in 3 cases, 9 cases of arrhythmia, and 5 cases of heart failure.

In multivariate analysis, the independent predictors of complications were: heart rate, pain-angioplasty delay, ECG territory, kinetics on cardiac ultrasound, blood glucose $> 2g / dl$ on admission, the result of the angioplasty, and TIMI risk score. Mortality is estimated at 0%.

Conclusion: Coronary disease in young people has a good short and medium term prognosis. Prevention of risk factors remains the cornerstone of care.

#22781 : Hydatid pulmonary embolism: A rare complication of hepatic hydatid cyst : a case report**Authors:**

ines ouaz (1), houda ben soltane (1), Ahmed Guesmi (1), Mariem khrouf (1), zied mezgar (1), Mehdi Methamem (1)

1. urgences , farhat hached, sousse, Tunisia

Keywords: hydatid, pulmonary embolism, hepatic hydatid cyst

Abstract :**Introduction:**

Cystic echinococcosis (CE) or Cystic hydatidosis (HCs) is a complex, chronic parasitic disease with a cosmopolitan distribution.

Human CE remains highly endemic in pastoral communities, particularly in regions of South America, the Mediterranean littoral, Eastern Europe, the Near and Middle East, East Africa and Central Asia.

In humans, 75% of HCs are seen in the liver, 15% in the lungs, and 10% in other anatomical locations.

Hydatid pulmonary embolism is extremely rare and is due to rupture of a cardiac hydatid cyst or, more rarely, rupture of a hepatic hydatid cyst.

We report a case of hydatid pulmonary embolism secondary to rupture of a hydatid cyst into the inferior vena cava.

Case:

A 42-year-old woman presented with gradually worsening dyspnoea.

There was no history of cardiovascular diseases.

The patient reported that she had had a hepatic cyst excised 6 years previously.

She presented a hepatic and splenic recurrence treated with oral albendazole for 2 years.

On physical examination, we noted a polypnoea, SPO₂ 90 %, ascites, leg oedema, jugular vein turjuscance ,hepatomegaly ,tachycardic (100 beats/min).

Arterial–blood partial pressures of oxygen (pO₂) and carbon dioxide (pCO₂) were 62 and 22 mmHg, respectively. An electrocardiogram showed a sinus tachycardia. A chest X–ray revealed a cardiomegaly.

The transthoracic echography showed an altered ejection fraction (35%) with global hypokinesia and a paradoxical septum, dilated right cavities and severe pulmonary arterial hypertension (80 mmHg).Figure 1, 2

The thoraco abdomino pelvic CT showed cystic lesions in the lower lobe segmental branches of the pulmonary arteries bilaterally(fig 3) , 2 hydatid cysts which one of them is in direct contact with inferior vena cava, sushepatic vein thrombosis, left branch of portal vein thrombosis, Budd Chiari syndrome and multiple intraperitoneal HCs.

Discussion:

Pulmonary or systemic embolisms caused by HCs are rare complications. Hepatic echinococci may open to the inferior vena cava, and daughter vesicles may cause embolisms in the pulmonary arteries. Sometimes cardiac HC can rupture directly into the pulmonary arteries.

These cysts might mechanically block blood flow. When supportive blood nutrition is provided by bronchial arteries, the pulmonary artery obstruction caused by slow–growing cysts may remain asymptomatic. the progression of the disease may cause symptoms like dyspnea, hemoptysis, and chest pain, and anaphylactic shock may develop due to leakage of the hydatid cyst fluid. Early diagnosis with imaging studies and treatment are the main aspects of preventing complications.

Although transthoracic echography is often used to check for cardiac cysts, it rarely allows the direct visualization of pulmonary embolisms. Transoesophageal echocardiography may reveal such embolisms if they are located in the main pulmonary artery.

the most useful imaging technique in the investigation of an Echinococcus-related pulmonary embolism is CT-based angiography, which may not only reveal the embolism but also indicate its parasitic cause (from the cystic appearance of the filling defect) and reveal other cysts.

in conclusion, Pulmonary embolism caused by a Cystic echinococcosis should be considered in patients who have undergone surgery for CE hepatic and/or cardiac cysts, especially in regions where CE is endemic.

#22783 : Risk factors to develop higher grade of anaphylaxis

Authors:

Ksenija Slankamenac (1), Timothy Maduz (1), Dagmar I. Keller (1)

1. Emergency Department, University Hospital Zurich, Zurich, Switzerland

Keywords: anaphylaxis, risk factors

Abstract :

Background: Anaphylaxis is a severe and potentially life-threatening systemic allergic reaction. The lifetime prevalence of anaphylaxis is 0.5 – 2%. The severity is scaled in grades from I to IV (modified by Ring and Messmer). Fatal outcomes depend on the grade. The assessment of risk factors associated with higher grade of anaphylaxis \geq II is therefore crucial.

In this study, we investigated the incidence of higher grade of anaphylaxis (\geq II) and risk factors in an Emergency Department (ED) population.

Methods: In a retrospective study, we enrolled consecutively all ED patients who presented with symptoms of an anaphylaxis from April 2014 to June 2018.

We grouped the anaphylaxis patients into grade I (only one organ system affected) and \geq grade II (more than one organ system affected). The primary endpoint was to evaluate risk factors associated with higher grade of anaphylaxis (\geq grade II). Descriptive, univariate and multivariable logistic regression models were used.

Results: We enrolled 129 ED patients, of which 62 patients (48.1%) suffered from symptoms of a higher grade of anaphylaxis (\geq II). These 62 patients presented with skin (87.1%), gastrointestinal (40.3%), respiratory (72.6%) and cardiac (7.8%) symptoms. Nearly three quarters of these 62 patients had a positive history for allergies and anaphylactic reactions in the past. The remaining 67 patients (51.9%) suffered from mild symptoms (grade I).

The study population was young (median age 36 (IQR 26 – 47), mostly female (55%) and 93% of patients had a Charlson co-morbidity index less than four.

Nuts allergens ($p=0.019$) and suffering from an underlying asthma ($p=0.006$) were identified as risk factors associated with a higher grade of anaphylaxis (\geq grade II).

Patients suffering from symptoms of a grade II or higher allergic reaction presented significantly more often during the spring period (41.9% vs. 23.9%, $p=0.043$) and daytime from 8 am to 5 pm (45.2% vs. 26.9%, $p=0.045$).

Conclusion: Nearly half of the study patients developed a higher grade of anaphylaxis. Nuts and asthma were identified as potential risk factors to develop a higher grade of allergic reactions after exposure.

To avoid further anaphylaxis and potential life-threatening conditions, it is of importance to identify allergens. Therefore, all patients with the diagnosis of an anaphylaxis grade II or higher need to be examined by allergologists on an outpatient basis.

Trial Registration / Funding Information (only) :

none

#22784 : Willingness to donate organs – a survey in the emergency department

Authors:

Ksenija Slankamenac (1), Elijah Temperli (1), Dagmar I. Keller (1)

1. Emergency Department, University Hospital Zurich, Zurich, Switzerland

Keywords: organ donation, organ donor card, predictors

Abstract :

Background: In Switzerland, 501 patients received an organ in 2019. However, 1459 patients were still registered on the donor organ waiting list end of 2019. Many more people need an organ than people are willing to donate one. Therefore, more than sixty organs had to be imported in 2019 and still this number was not sufficient. This disproportion of patients needing an organ and available organs is an ongoing discussion. A possible solution to this problem will be decided at the federal elections in the coming months by proposing that every single resident of Switzerland should be a regular organ donor, unless he or she explicitly rejects organ donation.

With these backgrounds of the current organ lack and political discussions, we evaluated among the Emergency Department (ED) population whether they have an organ donor card, which factors were associated with the ownership of an organ donor card and how the will to donate organs is expressed when they sign an organ donor card.

Methods: In a prospective survey during July 2019, we enrolled patients who visited a Swiss tertiary care ED during one week from 8 am to 6 pm, two weeks from 2 pm to 11 pm and one week from 11 pm to 8 am. The patients completed a written, standardized and self-administrated questionnaire during the waiting time in the ED. Descriptive, univariate and multivariable logistic regression models were used.

Results: We enrolled 307 ED patients, of which 62 (20.2%) were donor card owners. Fifty-three of these 62 donor card owners (85.5%) would be willing to donate organs. The remaining nine participants (14.5%) with an organ donor card were not willing to donate an organ; the reasons for this were very heterogeneous. In contrast, the two leading reasons given for the willingness to donate organs were: to help after death (80.6%) and to release relatives from the task to take the decision (37.1%). From the remaining 245 participants who did not have an organ donor card, 42% had a lack of knowledge in this topic, 26.5% did not think about the topic while 20.8% had not had time to take care of this issue.

Blood donation ($p=0.018$) as well as receiving a transplantation in the past ($p=0.023$) and having a university degree ($p=0.049$) were factors associated with the ownership of an organ donor card.

Conclusion: Only every fifth ED patient had a completely filled-out organ donor card. Most of the ED patients who did not have an organ donor card had a lack of knowledge and information about the topic, did not think about it or did not have time to take care of it. Whereas factors such as having a positive history for blood donation, being organ transplanted or having a tertiary level education were associated with the ownership of an organ donor card.

In order to increase the willingness to donate organs in the future, it is of immense importance to provide better information and more details and knowledge about this important topic.

Trial Registration / Funding Information (only) :

none

Authors:

Pao-Ling Liu (1)

1. Department of Nursing, Company:Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan, China

Keywords: elderly, emergency, return visits**Abstract :****Background / problem / goal**

The proportion of the elderly population in Taiwan is rapidly increasing. It is estimated that by 2026, the elderly population will exceed 20%, becoming a "super-aged society." The emergency medical resources used by the elderly over 65 years are much higher than those of other age groups. The purpose of this study is to explore the factors related to "unplanned return visits" of elderly emergency patients at a medical center in the south to improve emergency congestion.

Method

Retrospective data analysis was adopted, according to the data of emergency patient registration. (1) Return visits to the emergency department within 24 hours; (2) Return visits to the emergency department of the elderly over 65 years; perform descriptive statistical analysis, and the study period is 2019.05.01 ~ 2019.10 .31

Results

During the study period, 872 people returned to the emergency department within 24 hours, accounting for 1.9% of the total number of emergency departments, and there were 248 elderly people over 65, accounting for 28.4% of all age groups.

The chief complaint reasons for the second visit were different,

28.6%, the condition worsening or complications occurring, 1.6%, the symptoms not improving, 23%, the recurrence of symptoms, 44.8%, patient requested by physician to return, 1.2%, 2 reasons were not entered, 0.8%.

In terms of in-patient department , the hospitalization rate for returning to the

emergency department within 24 hours was 47.6%, among which 95.8% was the most in internal medicine, and 4.2% in the other (surgical, trauma, and ophthalmology).

Out-of-hospital order for returning to the emergency department, AAD (Against Advice Discharge), 11.7%, MBD (May Be Discharged), 40.7%, and hospitalization, 47.6%. After discharge from the hospital, the study subjects used only 1.6% of home-based care, and 6.5% of care institutions, 4.4% of elderly care centers, and 2% of nursing homes.

Conclusion

"Unexpected return to the emergency department in the short term" will cause the hospital emergency department quality to decline,

Among them, the majority of people over 65 years old (28.4%).

Analysis of the reasons is that: due to physical deterioration and cognitive decline in the elderly, the elderly have many companion diseases, which leads to patients often seeing emergency doctors. In terms of mental state, Because the elderly are old, living alone and lacking social support, they often have depression. which is also one of the reasons for returning to the clinic..

Nursing staff can communicate with patients and their families during the emergency department to understand their physical, psychological and social support status. When the patient is discharged from the emergency department for the first time, giving good health care instructions may reduce unnecessary return visits.

Regarding the lack of integration of long-term care institutions, if the local community can implement a cross-field cooperative service model by the nurses, combined with physicians, physiotherapists, and social workers, nurses will perform care, disease education, and nursing home visits, call care, resource links and referrals will bring more benefits and implement localized care services.

#22787 : Risk factors for 90-day readmission of sepsis patients

Authors:

Peer Oscar Overgaard Stenholt (1), Osama Bin Abdullah (2), Finn Erland Nielsen (1)

1. Department of Emergency medicine, Bispebjerg and Frederiksberg Hospital, Copenhagen, Denmark

2. Department of Emergency medicine, Slagelse Hospital, Slagelse, Denmark

Keywords: Sepsis. Sequential Organ Failure Assessment. Readmission. Risk factors.

Abstract :**Risk factors for 90-day readmission of sepsis patients**

Stenholt O¹, Abdullah SMOB², Nielsen FE^{1,3}

¹Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark. ²Department of Emergency Medicine, Slagelse Hospital, Denmark. ³Copenhagen Center for Translational Research, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark.

Background: Sepsis readmissions are common and a substantial burden to society and can have severe consequences to the patient with physical, cognitive and psychiatric impairment or death. Research in readmission after sepsis is sparse. The primary objective of our study was to examine risk factors for readmission in emergency department (ED) patients with sepsis.

Method: A single-center observational population-based cohort study among all adult (≥ 18 years) patients with infectious diseases admitted to the emergency department of Slagelse Hospital during 1.10.2017-31.03.2018. Sepsis was defined as an increase in the sequential organ failure assessment (SOFA) score of ≥ 2 . The primary outcome was 90-day readmission. We used Cox regression to estimate adjusted hazard ratios (aHRs) with 95% confidence intervals (CI) to compare the risk of readmission. We followed patients from the date of discharge from the index admission until the end of the follow-up period or until the time of readmission to hospital or death. Patients who died during the follow-up period without being readmitted, were censored at the time of death. The potential confounders were chosen *a priori* on existing knowledge of the association between the variables and readmission or if the variables in the crude analyses were associated with increased risk of readmission.

Results: A total of 2,110 patient were admitted with infections and 714 (33.8%) suffered sepsis. A total of 52 patients had died during admission and were excluded leaving 662 patients (44.1% female) with a median age of 74.8 (interquartile range: 66.0-84.2) years for further analysis. A total of 237 (35.8%; 95% CI 32.1-39.6) patients were readmitted within 90 days. After adjustment for potential confounding we found that a history of malignant disease (aHR 1.75; 95% CI 1.27-2.41), if previously admitted with sepsis within one year before the index admission (aHR; 1.47; 95% CI 1.13-1.93), and treatment with diuretics (aHR 1.47; 95% CI 1.14-1.90) were independent risk factors for readmission. aHR for diuretic treatment was consistent in a stratified analysis without heart failure patients.

Discussion and Conclusions: To the authors knowledge this is the first study to examine 90-day readmission in patients with sepsis identified by the SOFA criteria. More than one third of the patients were readmitted. A history of malignant disease, if previously admitted with sepsis, and diuretic treatment were independent risk factors for 90-day readmission. Our results can be helpful in discharge planning and in future research of interventions to reduce potentially avoidable readmissions.

Trial Registration / Funding Information (only) :

This project received financial support from Region Zealand Health Research Foundation and Naestved, Slagelse and Ringsted Hospitals Research Fund.

#22789 : Hair Dyes meant for dyeing not for dying

Authors:

ehab aki (1)

1. , , doha, Qatar

Keywords: balck hair dye , balck henna(lawsonia inremis , paraphenlene diamine , angiedema . rhabdomyolysis ,acute renal failure , liver injury**Abstract :**

38 years old female patient present after intentional ingestion of black stone (paraphenlene diamine) which use in hair dye to with allergic reaction, then during stay in emergency department her condition was getting worse developed sever angioedema and

then patient developed rhabdomyolysis ck 42000, Myoglobin 5000 and liver injury ALT 4683, AST 1515, and, patient was intubated and admitted to ICU, aggressive hydration started, patient discharge after one week from ICU

black stone (paraphenlene diamine) commonly used in middle east and south eastern Asian countries. usually adding to hair dye or henna for enhancing the black color also speeding up the tattooing process and make tattoo lasting longer time,

pure paraphenlene diamine PPD have white color, when exposed to air the color turn to brown or black by oxidation. partially soluble in water but easily soluble in hydrogen peroxide

The first case paraphenlene diamine (PPD) toxicity was described in 1924 because the paraphenlene diamine (PPD) are cheap and available People use it for suicide especially males in south eastern Asian countries (India, Pakistan)

PPD toxicity can cause angioedema, acute renal failure **rhabdomyolysis intravascular haemolysis Acute liver injury, acute MI, myocarditis and Neuropathy**

Treatment

There is **NO** specific antidote and treatment are Basically supportive including **Airway protection**, steroids and antihistamines, Epinephrine in severe allergic reaction and aggressive fluid and sodium bicarbonate

leaning points

poisoning by paraphenlene diamine (PPD) associated with high morbidity and recognition the PPD toxicity early reduce mortality and morbidly

secure air way and early intubation& be ready for difficult intubation

patient s needs Aggressive hydration

#22790 : the cyanotic baby: don't ever forget the heart!**Authors:**

MICHAEL BLUMENTHAL YOHAH (1)

1. Emergency Department, Northampton General Hospital, Northampton, United Kingdom

Keywords: cyanosis, newborns, breathlessness, transposition of great arteries, cardiac disease

Abstract :

Three week old baby presenting to the ED with increasingly worst SoB, cyanosed and low saturations, hard breathing pattern and episode of tonic posture with no clonic seizures no fever or other symptoms. on examination mottled and unwell with respiratory distress (subcostal and intercostal resession) RR 70/minute HR 185/minute CRT: 6 seconds central and 7 seconds peripheral. weak femoral pulses. alert but unconsolable no rashes seen.

Patient was managed in the resuscitation area as a periarrest call with the help of the paediatric team bloods were taken and antibiotics and IV fluids started. a VBG showed a mixed acidosis with ph 7.0 PCO2 8.0 lactate 14 and BE -12. CXR was requested with no particular findings prostaglandin started. while resuscitating kid star to deteriorate and finished intubated and ventilated for transfer to paediatric centre.

a differential diagnosis was made Congenital cardiac disease Vs Sepsis. Child was transfer for paediatric cardiology review a final diagnosis of transposition of great arteries (TGA) was made and the baby went for cardiac surgery.

It is crucial to understand the importance of the differential diagnosis for babies presenting with SoB to the emergency department and always keep in mind congenital cardiac disease as part of the initial workout. Some other causes to take in consideration are sepsis and metabolic errors. The prompt and sequential approach to this cases with a multi disciplinary team will assure the success of early intervention

Newborns presenting to ED with respiratory symptoms need to be treated quick and efficient in order to avoid complication as they deteriorate rapidly making situation stressfull to parents and unexperienced staff. Congenital cardiac disease of the newborn is not often seen in our Emergency departments and clinicians need high level of suspicion in order not to miss potential cases.

#22793 : Effectiveness of high fidelity simulation to train emergency medicine physicians in eFast in a lower middle income country: A quasi-experimental study

Authors:

Madiha Ismail (1), Kiran Azizi (1), Umaira Aftab (1)

1. Emergency Medicine, AKUH, Karachi, Pakistan

Keywords: PoCUS, Emergency Physician, high fidelity simulation

Abstract :**ABSTRACT:****Background:**

Extended-focused assessment with sonography in trauma (e-FAST) is not only a time and cost efficient tool ; it has improved diagnostic accuracy, management and outcomes of surgical patients in ED.¹ Learner's confidence in image acquisition, interpretation as well as translation of knowledge in clinical decision making is essential. High Fidelity simulation offers a safe and "mistake-forgiving" environment to teach and train medical professionals. The purpose of our study was to evaluate effectiveness of high fidelity simulators to train emergency medicine (EM) physicians in e-FAST at a tertiary care teaching hospital in Karachi, Pakistan.^{2,3}

Method: A quasi-experimental study design including questionnaires assessing knowledge and skills of e-FAST, and direct observation of participants was used to evaluate an educational intervention including lecture and hands on practice on a high fidelity simulator (sonosim®).

The study was conducted in a simulation centre located in a multidisciplinary university Hospital in Karachi, Pakistan. Inclusion criteria were (a) voluntary participation (b) being emergency physician (c) not previously formally trained in e-FAST.

To evaluate knowledge and image interpretation skills a questionnaire was designed. The same assessment tools were administered pre and post-course, along with a course evaluation. Participant's ability to acquire satisfactory image was assessed by experienced emergency physician and recorded. Data was analyzed using SPSS 20. All the tests were two sided and p value less than 0.05 considered significant. Baseline characteristics and outcome variables were recorded. Wilcoxon signed ranked test was used to analyze difference between pre and post intervention score.

Result: A total number of 31 EM physicians were enrolled in the study out of which 12(38.7%) were males and 19(61.29%) were females. Majority had an experience of 1-3 years n=24(77.4%). Mean and Median group performance improved from 6 and 6.5 to 14.5 and 15 on post test as compared to the pretest scores (Z=4.867, p<0.05). Image acquisition and interpretation on sonosim® was correctly done by 29 (93.5%) participants in Right upper quadrant, 27(87%) left

upper quadrant, 21(67%) pericardial, 29 (93.5%) suprapubic and 22(70.9%) lung windows respectively.

Conclusion: After a brief workshop incorporating simulation emergency physicians demonstrated improvement in knowledge as well as Image acquisition and interpretation skills. We conclude that High fidelity simulation training is an effective modality for training Emergency physicians in e-FAST.

Trial Registration / Funding Information (only) :

Trial not registered, nor any funding granted for this study.

#22794 : Predicting Future Resource Needs for Patients of the Emergency Department

Authors:

Diederik Van Sassenbroeck (1), Steven Mertens (2)

1. Head of the Emergency Medicine Department, AZ Maria Middelaers Hospital in Ghent, Ghent, Belgium

2. , Ghent University, Ghent, Belgium

Keywords: resource planning, predictive monitoring, machine learning

Abstract :

Background. Patients arrive at the ED with a variety backgrounds, complaints and symptoms. Emergency physicians use this information diagnose them, typically using several additional hospital resources along the way (e.g., lab test or CT scanner). Once a diagnosis is available, they decide between three treatment plans: a treatment on the spot, a treatment plan for at home or a treatment provided at another department of the hospital (i.e., admission). While the first two involve a patient discharge, the latter requires both the reservation of an internal transfer service and a free bed in that other department. Experienced ED physicians often already have an implicit idea of the future resource needs of a patient very early in the contact. This means that they can anticipate and request those resource in advance as to minimize waiting time and resource planning. However, this experience needs to be built up and the implicit idea is still an obstacle for resource planning. In this research project, we attempt to quantify that implicit idea as an actual probability based on the data about the care episode in the EHR. We report here on the first step of this research project, more specifically, the exploration of techniques to predict early in the care episode whether that patient will be discharged or admitted (incl. to which department).

Methods. The Design Science methodology was used to develop several prediction techniques, both white-box (i.e., using traditional statistics) and black-box (i.e., machine learning). The benchmark is a technique that makes predictions based on the absolute frequencies of discharges and admission to each of the other hospital departments. As evaluation, we defined a prediction experiment using real-life data from the ED of the AZMM hospital in Ghent consisting of 41657 patients. We applied repeated random sub-sampling cross validation to ensure generalizable results for the given dataset. It was split randomly three times in a 90-10 split: 37492 patients for optimization/training and 4165 patients for evaluation. The evaluation criteria were the optimization and training time, the prediction calculation time and five prediction performance measures: rank, accuracy, brier score, log loss and rank score. The experiments are executed on the Flemish Supercomputer.

Results. The preliminary results show that the developed techniques easily outperform the benchmark (i.e., accuracy of 75-95% versus 67%) for the AZMM ED dataset. More results will become available soon as computational resources are released again for general research after the (hopefully quick) resolution of the current pandemic.

Conclusions and future directions. The prediction of future resource needs of patients can be hugely beneficial for resource planning of scarce resources. Departments can be notified hours in advance of potential future capacity problems, allowing them to make arrangement to preventatively free up bed by discharging or transferring current patients quicker whenever possible. We also plan to define a patient priority estimate based on all available data to make it easier to decide which patients should be prioritized over others when both are waiting for the same resource.

Trial Registration / Funding Information (only) :

Flanders Innovation & Entrepreneurship, Agency of Innovation and Entrepreneurship, Flanders, Belgium

#22797 : Knowledge, Attitudes, Practices and perceived barriers of Emergency health care providers regarding Sepsis and Septic Shock in a Tertiary care centre: A Cross sectional study

Authors:

Madiha Ismail (1), Kiran Azizi (1), Umaira Aftab (1)

1. Emergency Medicine, AKUH, Karachi, Pakistan

Keywords: Sepsis, septic shock, Knowledge, Attitudes, Practices, Emergency Department, Physicians, Nurses, low-and middle-income countries

Abstract :

Background: Sepsis syndrome is associated with very high mortality and morbidity. Early recognition and initiation of protocol based treatment can improve the outcome. This study was aimed to assess knowledge, Attitudes, Practices and perceived barriers of Emergency health care providers regarding management of sepsis and septic shock.

Methods: This cross sectional study was conducted in Emergency department of Aga Khan University hospital from August to October 2017. Knowledge, attitude and practice survey was based on surviving sepsis campaign (SSC) guidelines 2016; assessing knowledge of sepsis and its management was distributed to health care providers. The target population was 60 comprising of trainee and non-trainee emergency physician and nursing staff working in critical areas of Emergency department.

Results: A total of 53 health care providers participated in the study. Overall, 79% of participants demonstrated correct knowledge of sepsis bundle including 75% Post graduate medical trainees (PGMT), 83% Non-trainee ED physician and 84% nurses. Almost all nurses and PGMT (100%) were aware of availability of sepsis resuscitation protocol in ED except for 33.3% of non trainee ED physician. However perceived compliance to above was reported as less than 75% by 80 % of the participants. The most common barrier reported in compliance of sepsis bundle was shortage of staff (62%), followed by delayed presentation of patient (58%) and overcrowding (42%). Furthermore better staffing was perceived by participant (60%) to improve care to septic patients followed by sepsis awareness sessions (23%) and reduction in ED crowding (11%).

Conclusion: Emergency health care providers demonstrated good knowledge but lower self-reported compliance to sepsis guidelines. Participants identified shortage of staff, delayed presentation of sepsis patients and ED overcrowding as most common barriers in optimal management of sepsis in this setting. Specific

measures tailored to above identified problems by policy makers can significantly improve mortality in sepsis.

Trial Registration / Funding Information (only) :

This study was not funded.

#22801 : A pilot observational study on point-of-care biomarkers: spontaneous intracerebral hemorrhage in the emergency department

Authors:

Eugenia - Maria Muresan (1), Adela Golea (2), Sorana D. Bolboaca (3), Lacramioara Perju-Dumbrava (4)

1. Teaching Assistant, University of Medicine and Pharmacy Cluj, Romania, Cluj - Napoca, Romania
2. Associate Professor - Department of Emergency Medicine, University of Medicine and Pharmacy Cluj, Cluj - Napoca, Romania
3. Prof. Dr. Habil. - Department of Medical Informatics and Biostatistics, University of Medicine and Pharmacy Cluj, Cluj - Napoca, Romania
4. Professor - Department of Neurosciences, University of Medicine and Pharmacy Cluj, Cluj - Napoca, Romania

Keywords: emergency care, observational, point-of-care, biomarkers, prospective, (spontaneous) intracerebral hemorrhage

Abstract :

Background: Stroke is a worldwide leading cause of death and disability, and intracerebral hemorrhage (ICH) continues to pose a significant economic and social impact, despite the recent efforts made towards documenting outcome-bettering acute interventions. This study aimed to assess the enrolment process in a prospective study concerning point-of-care (POC) biomarkers on spontaneous ICH (sICH), conducted in a Romanian emergency department (ED).

Methods: Patients suffering from acute (less than 8 hours from symptom onset) sICH were enrolled in this study over 18 months. Patients presenting a Glasgow Coma Scale score lower than 8, secondary ICH, seizures, recent ischaemic events, known thromboembolic disease or anticoagulant treatment, severe pre-stroke disability, terminal disease, scheduled neurosurgical intervention or hemostatic treatment were excluded. Demographic and baseline clinical characteristics have been collected upon enrolment, in the ED, along with troponin, D-dimer, and C reactive protein sampling.

Results: Thirty-nine patients were included with an inclusion rate of 2.16 patients/month. Of the 375 potentially eligible patients, 36% (134 patients) had a secondary ICH, and 63% of the sICH patients did not meet the inclusion criteria mainly due to late presentation, severely altered mental status, current oral anticoagulant treatment or lack of study team activation. The median age of the cohort was 72 years, with a slight predominance of males (female:male = 19/35). Hypertension was the most common documented risk factor (77%), along with diabetes (~29%) and ischaemic heart disease (31%). Additionally, one-third of the hypertensive patients did not undergo any blood pressure-lowering treatment. Mean baseline values were documented for white blood cells (WBC - $9.30 \times 10^9/L$ (6.80 to 10.95)), hemoglobin (13.60 mg/dL (12.70 to 14.85)), and glycaemia (146 mg/dL (124 to 166)). The median time from symptom onset to ED presentation was 128 minutes (Q1 to Q3) = (96 to 239), {min to max} = {35 to 346}, with 21 of the 35 patients having presented within the first 3 hours from ictus. All patients had a diagnostic CT scan performed in the ED, with a median time of 170 minutes (Q1 to Q3) = (126 to 317), {min to max} = {59 to 507} between symptoms' onset and CT scan and a median of 25 minutes (17 to 62) between presentation time and CT scan. The median time from patient's ED presentation to complete blood count (CBC) result was 12 minutes (Q1 to Q3) = (6,5 to 20), {min to max} = {1 to 365}, with 21 of the 35 study participants having the results available within 15 minutes from ED arrival.

Discussion & Conclusions: ED-based research is a feasible instrument not only for epidemiological data collection but also for developing risk stratification strategies using novel tools such as POC biomarkers.

Trial Registration / Funding Information (only) :

The protocol of the Emergency Management of Spontaneous Intracerebral Hemorrhage – Biomarkers (EsICH-bio) was registered and is available at [ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT02935985) (NCT02935985)./ This study was funded by the “Iuliu Hațieganu” University of Medicine and Pharmacy Cluj, Romania, through the Doctoral Research Program (PCD nr. 7690/ 74/ 15.04.2016 and PCD 5200/ 64/01.03.2017).

#22802 : A Machine Learning Model for Prediction of Unscheduled Return Visits in Emergency Department

Authors:

Yen-jung Chu (1), Charles C.N. Wang (2), Shao-hua Yu (3), Jiao-En Wu (4), Hong-Mo Shih (3), Yu-Shin Chang (3), Chih-Yu Chen (3)

1. , , Taichung City, Taiwan, China

2. Department of Bioinformatics and Medical Engineering, Asia University, Taichung City, Taiwan, China

3. Department of Emergency Medicine, China Medical University Hospital, Taichung City, Taiwan, China

4. Department of Computer Science and Information Engineering, Asia University, Taichung City, Taiwan, China

Keywords: Unscheduled return visit, machine learning model, artificial intelligence

Abstract :**Background:**

An unscheduled return visit (URV) in emergency department (ED) is an important quality indicator of performance for the delivery of emergency care. Machine learning (ML) techniques have been developed in healthcare system for clinical research and practice in these decades. Collaborations between researchers from artificial intelligence (AI) and medical systems have created novel solutions for better patients care and more efficient healthcare systems. Our aim is to develop an AI tool which is more powerful and more suitable for Asian countries to predict URV and improve ED healthcare quality.

Methods:

In this project, we use data of 160,189 patients visit in China Medical University Hospital between 2017/01–/2017/12 and excluded patients who left ED due to missing data, against medical advice and patients aged less than 18 years old. To avoid any kind of anomalies or repetitions, cross-validation was used to obtain an answer as accurately as possible.

First, the dataset is pre-processed on the dataset by creating synthetic examples of the class “return” (URV of ED patient). Next, we apply the feature selection process where we rank the variables of the dataset according to their information gain and select the subset with the highest gain. Totally 12 factors were selected as input factors pool for outcome measurement. Finally, we examine different machine learning models with XGBOOST, Random Forest, and evaluate their performance using the two main methods, hold out 80/20 and 10-fold cross-validation, based on different evaluation metrics. F-scores were measured for output feature importance.

Results:

Three input factors: patients' complaint; stay time and cost are associated with higher rate of URV within 72 hours in ED by using machine learning with XGBOOST method. We developed prediction criteria based on these rules that differentiate the revisit patients from the rest of the patients with predictive accuracy 70.6%.

Discussions & Conclusions:

By machine learning approach, the patients' complaint, cost and stay time in ER were predicting factors for unscheduled return visit within 72 hours in ED. Clinicians can use these prediction materials as a decision-making tool for URV prediction.

Trial Registration / Funding Information (only) :

none

#22803 : Validation of the clinical rule of PECARN to predict serious bacterial infections in febrile infants without source of fever**Authors:**

Patricia Bolivar (1), Roberto Velasco (2), Borja Gomez (3), Francisco Javier Benito (4), Santiago Mintegi (5)

1. Pediatrics, Rio Hortega University Hospital, Valladolid, Spain
2. Pediatric Emergency Department., Rio Hortega University Hospital. (Valladolid, SPAIN), Laguna de Duero, Spain
3. Pediatric Emergency Department., Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Barakaldo, Spain
4. Pediatric Emergency Department, Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Bilbao, Spain
5. Pediatric Emergency Department., Biocruces Bizkaia Health Research Institute, Hospital Universitario Cruces. University of the Basque Country, UPV/EHU, Gorniz, Spain

Keywords: clinical rule, febrile infant, invasive bacterial infection

Abstract :

Introduction

Recently, the Febrile Infant Working Group of the Pediatric Emergency Care Applied Research Network (PECARN) developed a new clinical prediction rule to identify febrile infants ≤ 60 days old with a low risk of serious bacterial infection (SBI). This rule included as risk factors the presence of an altered urine test, an absolute neutrophil count >4090 cells/ μl and a serum procalcitonin >1.71 ng/ml and showed a sensitivity of 97.7% (95% confidence interval [CI]: 91.3-99.6%).

Aim

To validate this clinical prediction rule in an independent cohort to identify infants with fever without source (FWS) with low risk of SBI and mainly, invasive bacterial infection (IBI).

Methods

Secondary analysis of a prospective observational registry, which included infants ≤ 60 days old attended with FWS in a pediatric emergency department between 2007 and 2018. Those in whom blood culture, urine culture or any of the three analytical parameters included in the PECARN rule were not performed were excluded. The performance of the PECARN clinical rule was evaluated to identify SBI and IBI. IBI was defined as the isolation of a pathogenic bacterium in a blood or cerebrospinal fluid culture, and as SBI, also urinary tract infection, in addition to IBIs.

Results

A total of 1247 infants were included, with 54.9% attended in the first six hours of fever. SBI was diagnosed in 256 infants (20.5%) including 38 IBIs (3.1%). Using the PECARN rule, 576 infants (46.0%; 95%CI 43.4-49.0) would have been classified as low risk of SBI. Twenty-six of the 256 infants diagnosed with an SBI and 5 of the 38 diagnosed with an IBI would have been classified as low risk (Sensitivity 89.8% [95%CI 85.5-93.0] for SBI and 86.8% [95%CI 72.7-94.2] for IBI). The area under the curve was 0.726 (95%CI 0.702-0.750) for SBI and 0.671 (95%CI 0.614-0.727) for IBI.

The sensitivity of the PECARN rule to identify IBIs was 81.3% (95%CI 57.0-93.4%) among infants with fever of less than 6 hours of evolution and 90.9% (95%CI 72.2-97.5%) among infants with a longer length of fever.

Conclusion

In our sample of febrile infants, the performance of the PECARN clinical rule was lower than that described in the original study. Given these results, it seems that it should be used with more caution in young infants with FWS, especially those with short-term processes.

#22804 : Tourniquet application by schoolchildren- a randomized comparative simulation study of three commercially available models

Authors:

Alaa El Bashtaly (1), François Méthot (1), Lawrence Ledoux-Hutchinson (1), Valérie Homier (2), Elene Khalil (3), Jeffrey Franc (4)

1. Medicine, Université de Montréal, Montreal, Canada
2. Emergency Medicine, McGill University Health Centre, Montreal, Canada
3. Pediatric emergency medicine , Montreal Children's hospital , Montreal, Canada
4. Emergency Medicine, University of Alberta , Alberta, Canada

Keywords: commercial tourniquets, pediatric, simulation, hemorrhage control

Abstract :**Background**

Life threatening haemorrhage is a leading cause of preventable mortality in trauma patients. Several studies have demonstrated the effectiveness and safety of commercially available tourniquets for rapid haemorrhage control when used by adult civilians. However, there is no data about tourniquet application by school-age children.

Methods

A randomized interventional study was conducted in four elementary schools in Montreal between November 5 and 12, 2019. Students aged 10 to 12 years old without previous experience using commercial tourniquets were shown a training video explaining the application of three commercially available tourniquets: Combat Application Tourniquet Gen 7 (CAT-7), Mechanical Advantage Tourniquet (MAT), and Stretch Wrap and Tuck Tourniquet (SWATT). Participants were randomly assigned to one of six tourniquet model application sequences. Students practiced installing each tourniquet model on a mannikin during a two-minute practice phase followed by a two-minute evaluation phase. The study was approved by the McGill University Faculty of Medicine Institutional Review Board

The primary outcome of proportion of correct tourniquet application was assessed using Pearson's Chi Square test. The secondary outcome of time to successful application was evaluated using ANOVA. The participants' preference of model is presented as the observed proportion for each model with a 95% confidence interval.

To have 80% power to detect an absolute difference of 20% in one of the groups using a level of significance of 0.05 a samples size of 100 was necessary.

Results

181 students were invited to participate; 97 obtained parental approval and were recruited in the study. 96 participants were randomized to one of six tourniquet application sequences (15 to 17 participants per circuit). Overall, 115 tourniquet applications were considered successful (44,9%) and 141 were considered unsuccessful (55%). There was a significant difference in the proportion of successful application between the tourniquet models ($p < 0.0001$). Success rate for the MAT was highest at 67% (95% CI: 56 to 77), followed by CAT at 44% (95% CI: 33 to 55), and SWATT at 24% (95% CI: 16 to 35). There was also a significant difference in mean time to successful application between models ($p < 0.0001$): 57 seconds for the MAT (95% CI: 51 to 63), 80 seconds for the CAT (95% CI: 74 to 86), and 90 seconds for the SWATT (95% CI: 85 to 95). Finally, there was a significant difference in model preference; the MAT was preferred by 64% of participants (95% CI: 53 to 74), the CAT by 30% of participants (95% CI: 21 to 41) and the SWATT by 6% of participants (95% CI: 2 to 13; $p < 0.0001$)

Conclusion

In this study of 10 to 12-year-old students, the Mechanical Advantage Tourniquet outperformed both the Combat Application Tourniquet and the Stretch Wrap and Tuck Tourniquet in both proportion of correct applications and in time to application. In addition, it was the most frequently preferred model. However, the study demonstrated that there are a substantial number of failures with all tourniquet models, suggesting that further optimization and study of tourniquet use in children is necessary.

#22805 : Teaching professionalism using the case of impairment for emergency medicine residents**Authors:**

Kyung Hye Park (1)

1. , Yonsei Univ. Wonju College of Medicine, Wonju, Korea, Republic of

Keywords: Professionalism, Physician impairment, Emergency medicine, Residents, Education

Abstract :

Objective: This study was evaluated behavior intention of emergency medicine (EM) residents before and after education using vignette case about professionalism, especially in physician impairment. And we evaluated the residents' reaction to this type of education.

Methods: Thirty-four residents from 5 teaching hospitals participated in this education program consisting of lecture and discussion using cases. They wrote their behavior intention and their opinions before and after education. And their satisfaction and reaction to the education experience were also collected.

Results: The frequencies of the common reasons for the action or the basis of the judgement, concerns when decision making, and desired help were similar, but their action decisions changed into more systemic and reasonable ones after education. They had few learning experience of non-clinical skills, and satisfied with this type of professionalism education. Furthermore, they felt the importance and educational needs of professionalism beyond this topic, and would cope with the similar problem situations the way they learned in this education.

Conclusion: In the professionalism education using case discussion of impairment and self-monitoring, little had changed in participants' reasons for the action, concerns when decision making, and desired help, but their behavior intentions changed as learned. This study provided the opportunity to recognize the importance of professionalism, patient safety, and peer relationship. As a way of professionalism education for the EM residents, small group discussions using the vignette case can be suggested.

#22806 : Emergency Medicine Residents' Needs Assessment for Education and Training using Nationwide Survey**Authors:**

Kyung Hye Park (1), Tae Hyun Gwon (2)

1. , Yonsei Univ. Wonju College of Medicine, Wonju, Korea, Republic of

2. , Yonsei Univ. Wonju College of Medicine, Wonju, Korea, Republic of

Keywords: Emergency medicine; Residents; Education; Needs assessment

Abstract :

Objective: This study was conducted to identify the needs assessment for education and training of emergency medicine (EM) residents.

Methods: We used the results of a national survey of emergency medicine residents of the Korean Society of Emergency Medicine in 2019. Education was the one of the 5 categories in survey. Preferred learning methods and their perceived importance and ability to perform in 9 competencies were asked. Borich's needs assessment model was used to analyze their needs.

Results: Among a total 591 EM residents, 382 were responded, and 371 responses were finally analyzed. Regarding learning methods, junior residents preferred in-hospital conference, staff lecture, internet resource, and textbook. Overall, medical knowledge and procedural skills were the most important, and research was less important to recognize. Medical knowledge was the highest rank, and ethics and professionalism were the lowest ranks in needs assessment in all years. Needs for procedural skills were higher in junior years, but lower in senior years.

Conclusion: These results will be the basis to design training programs to meet the educational needs of emergency medicine residents for each grade. Furthermore, analysis of educational needs should be done periodically according to the changes and demands of the times.

#22809 : Point of care diaphragm ultrasound: an objective tool to predict the severity of pneumonia and outcomes in children

Authors:

Murat Duman (1), Nihan Sik (1), Hale Citlenbik (1), Ali Ozturk (1), Durgul Yilmaz (1)

1. Department of Pediatrics, Division of Emergency Medicine, Dokuz Eylul University School of Medicine, İzmir, Turkey

Keywords: children, diaphragm ultrasound, pneumonia

Abstract :

Introduction: Pneumonia is one of the most common serious infections in pediatric population worldwide. Scoring systems have been adopted to quantify the severity of the disease but they were based on clinical findings that could vary according to subjective assessment of clinician. Diaphragm ultrasound (DUS) has been used to evaluate diaphragmatic fatigue after cardiac surgery or to predict extubation success from mechanic ventilator in adult and pediatric intensive care units recently. However, there is no study providing information on the evaluation of DUS in children with diagnosis of pneumonia. We hypothesized that DUS parameters could be useful to objectively score the severity of the disease and predict outcomes in previously healthy children with pneumonia in the emergency department.

Methods: Previously healthy children diagnosed with pneumonia using the methodology previously described by lung ultrasound, aged between 1 month and 18 years were prospectively evaluated in the pediatric emergency department. The Pediatric Respiratory Severity Score (PRESS) was used to indicate the severity of the disease and when the patient looked calm, DUS was performed with a linear transducer. Subjects were imaged in supine position. If the infiltration was unilateral, the pathological side was evaluated, if bilateral lung sides were affected, then the mean of right and left side measurements were calculated. Diaphragm thickness at the end of inspiration (TEI) and expiration (TEE), diaphragm excursion (EXC), inspiratory slope (IS), expiratory slope (ES) and total duration time of the respiratory cycle (TRC) were calculated. The thickening fraction (TF) was calculated as follows: $(TEI - TEE) / TEE$ and recorded as a percentage.

Results: There were 96 patients enrolled in the study. Inspiratory slope and ES measurements had a significant positive correlation between respiratory rate and length of stay in hospital and a negative correlation between oxygen saturation (SpO₂) levels evaluated at the time of admission. Also, TF values were negatively correlated with respiratory rate and length of stay in the emergency department. Patients with higher clinical scores had increased IS, ES and decreased TF values. Receiver operating characteristic curve (ROC) analysis was performed and the value of the area under the curve (AUC) for IS in PRESS grade 4 and 5 was 0.805 (95% confidence interval (CI): 0.670–0.910). At a cut-off level of 0.277 cm/s, the sensitivity and specificity of IS values for PRESS grade 4 and 5 were 87.5% and 51.9%. For ES, the value of the AUC in PRESS grade 4 and 5 was 0.761 (95% CI: 0.650–0.890). At a cut-off level of 0.248 cm/s, the sensitivity and specificity were 87.5% and 58.2%. Patients who required respiratory support had higher IS and ES measurements.

Discussion&Conclusion: Point of care diaphragm ultrasound can be a new promising and useful tool to assess diaphragmatic dysfunction and help the pediatric emergency physician to rapidly make decision about patients diagnosed with pneumonia. Diaphragm parameters, especially TF, IS and ES may provide objective and reliable information to predict the severity of the illness, need for respiratory support and outcomes.

#22810 : Intravenous magnesium sulfate for acute bronchiolitis: evaluation of the effect on clinical course and outcomes

Authors:

Murat Duman (1), Nihan Sik (1), Hale Citlenbik (1), Ali Ozturk (1), Durgul Yilmaz (1)

1. Department of Pediatrics, Division of Emergency Medicine, Dokuz Eylul University School of Medicine, İzmir, Turkey

Keywords: acute bronchiolitis, children, magnesium sulfate

Abstract :

Introduction: Current recommendations for treatment of acute bronchiolitis (AB) focus on supportive care, including respiratory support, oxygen supplementation if needed and adequate hydration. Intravenous (IV) and nebulized magnesium sulfate (MgSO₄) were used for management of adult and pediatric bronchial asthma and revealed benefits. The aim of this study was to assess the efficacy of IV MgSO₄ on clinical severity scores, oxygenation, need for respiratory support and outcomes for previously healthy children with moderate–severe bronchiolitis.

Methods: We retrospectively assessed children aged between 1–24 months with moderate–severe bronchiolitis according to The Modified Respiratory Distress Assessment Instrument (mRDAI) score, who had a low risk of bronchial asthma between December 2018–May 2019 in the pediatric emergency department. Patients with life–threatening disease requiring immediate intervention, having chronic respiratory, cardiac, neuromuscular diseases, genetic disorders, immunodeficiencies, a history of prematurity (34 gestational week), recurrent wheezing (more than 3 attacks) and a history of bronchodilator or corticosteroid use within 48 hours of admission and incomplete data were excluded. We also excluded patients who met one major or two minor criteria according to the Modified Asthma Predictive Index in order to minimize the risk of bronchial asthma. As the treatment protocol applied in our hospital, patients given 3 doses of 2.5 mL salbutamol nebulas with 20 minutes intervals, then repeated at 3 hours intervals, 1 mg/kg/dose of methylprednisolone and administered 5 L/min oxygen by a simple face mask if oxygen saturation (SpO₂) <90% were selected and divided into two groups after these treatments: Patients that received 40 mg/kg/dose of IV MgSO₄ (+) group and not received MgSO₄ but had similar clinical severity scores as MgSO₄ (–). Groups were compared for vital signs, clinical findings, severity scores, SpO₂/FiO₂ ratios (S/F), need for respiratory support and length of stay in the hospital.

Results: There were 107 patients enrolled in the study. The mRDAI score was similar for both groups. Respiratory rate and mRDAI score significantly decreased at the 2th hour of MgSO₄ treatment and the decrease was observed for 4th, 8th and 12th hours, compared with MgSO₄ (–) group. In patients that received MgSO₄, the significant decrease of respiratory rate and mRDAI score was seen at the 2th hour and also continued until the 12th hour. Magnesium sulfate (+) patients had a higher S/F ratio at 4th hour compared with MgSO₄(–) group and in MgSO₄(+) group, the elevation was observed at the 4th hour. The rate of requirement for respiratory support was significantly lower in patients that received MgSO₄. Patients who was not treated

with MgSO₄ required for respiratory support earlier than the MgSO₄(+) group and had a longer hospital stay.

Conclusion: Intravenous MgSO₄ provided significant improvement on clinical severity, early phase of oxygenation, need for respiratory support and outcomes with no side effects. It seems to be an effective treatment option for management of bronchiolitis. Nevertheless, multicenter studies with larger case series are required to reveal the benefits of IV MgSO₄ in children with mild-moderate bronchiolitis and to take part in the treatment guidelines.

#22811 : Acute Aortic Dissection presenting with Inferior STEMI : A Chilling Reminder

Authors:

Raiiq Ridwan (1), Mawra Suzar (2)

1. Accident and Emergency, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom
2. Accident and Emergency, Basildon and Thurrock University Hospitals NHS Foundation trust , Basildon , United Kingdom

Abstract :

Brief Clinical History

A case is presented of a 60 year old gentleman with background of Hypertension who presented with sudden-onset chest pain that radiated to the right shoulder and was associated with feeling hot and clammy. Pain was described as a 6/10 severity and self-resolved after two minutes. On presentation to the Emergency Department, ST elevation was noticed in the inferior leads (III, aVF) with reciprocal ST depression in I, aVL, V5 and V6. A diagnosis of Inferior ST-Elevation Myocardial Infarction was made and a referral made to the regional Cardiac Centre. Moreover, the first Troponin assay was raised, further confirming that the patient had an Acute Coronary Syndrome. It was advised that the patient is not for Primary PCI and advice was given to treat the patient medically for an Acute Coronary Syndrome (ACS). Aspirin, Clopidogrel and Fondaparinux were given as per local protocol for management of ACS. 10 hours after admission, the patient had an urgent echocardiogram that showed a dilated aortic root. An urgent CT Aorta was done that confirmed a Type-A acute aortic dissection. Patient was urgently transferred to the local Cardiac Surgery Unit and was operated on. Unfortunately, patient did not recover, and died on the operating table.

Misleading Elements

ST changes on the ECG, background of Hypertension and a raised troponin all were in keeping with the diagnosis of an Inferior STEMI.

Helpful details

The history of a short burst of chest pain that self resolved is mentioned as a "classic" early sign of an acute aortic dissection. An early Echocardiogram alluded to the diagnosis that was confirmed by a CT Aorta. However, diagnosis was delayed by almost 12 hours from the admission of the patient to the Emergency Department.

Educational Relevance

Acute Aortic Dissection is an extremely severe condition having high mortality. Moreover, there can

be coronary malperfusion, more commonly to the right coronary artery making it an increasingly more dangerous presentation. This means that while uncommon, Acute Aortic Dissection can present as an Inferior STEMI. European guidelines also mention that Acute AD is a cause of troponin rise. This is important to consider, especially as standard ACS treatment would be contraindicated in an Acute Aortic Dissection and literature indicate increases mortality in patients with Acute AD. The aim of this case report is to learn from the case and avoid the same pitfalls as has happened here. Early investigations, such as Echocardiography, and even laboratory tests such as d-dimer could be considered in patients with an Inferior STEMI as a potential "rule-out" category for Aortic Dissection.

#22812 : Parafalcine Subdural Haemorrhages in patients with anticoagulation: An uncommon finding in isolated Minor Head Injury**Authors:**

MICHAEL BLUMENTHAL YOHAI (1), MICHAEL BLUMENTHAL YOHAI (1)

1. Emergency Department, Northampton General Hospital, Northampton, United Kingdom

Keywords: anticoagulation. SDH, falx syndrome, falx cerebri, intracranial bleed

CT scans

Patient images are involved and I have adequate permission to use them

Abstract :

Parafalcine or inter-hemispheric Subdural hematoma is an uncommon presentation due to the unusual location of the bleeding. They are normally related to other bleeding sources and presented strangely as isolated injuries. Most of the cases are related to trauma or anti coagulation therapy.

Parafalcine SDH can be present with or without neurological findings on clinical examination and normally are treated conservatively with variable prognosis depending on the severity of the injury; the risk factors to predict the outcome are not well studied..

We present an 87 year old lady on warfarin therapy, attending the ED after sustaining a minor frontal head injury There was no neurology deficit or other injuries on examination. .

CT Head showed a large Parafalcine SDH with no midline shift. The case was discussed with neurosurgeons and decide to manage locally and conservative.

Intracranial bleeding can present commonly in patients with anticoagulation therapy that sustain head injuries, the parafalcine presentation is uncommon in these cases and needs to be manage carefully and seriously as they tend to progress quickly

#22813 : Impact of point of care influenza-testing in the emergency department - an observational year-to-year comparison

Authors:

Mats Jacob Hermansson Lindberg (1), Christian Backer Mogensen (1)

1. Emergency Department, Hospital Sønderjylland, Aabenraa, Denmark

Keywords: Influenza, Influenza-test, Point of Care, Point of Care-testing, Test utilization, Length of stay

Abstract :

Background

A Point-of-Care test for Influenza (PoC-IT) was introduced in the Emergency Department, Sønderjylland Hospital, Denmark, in January 2019. Time-to-test-result was thereby reduced from about 1 day to less than 1 hour. We wanted to study whether the Implementation of PoC-IT was associated to a lower threshold for ordering Influenza-test and/or shorter hospital stay for Influenza-positive patients.

Methods

We retrospectively compared Influenza-test results and length of hospital stay for Influenza-positive patients in the influenza season before (2018) and after (2019) implementation of PoC-IT. The observation period was January 1 to May 15 both years. The sources of data were the local Department of Microbiology and The Danish National Patient Register.

Results

314 patients were tested for influenza in the observation periods. The number of daily Influenza-tests were almost tripled in 2019 compared to 2018 (2.2 vs. 0.8 daily tests). The proportion of positive Influenza-tests were significantly lower in 2019 than in 2018 (24.6% vs. 44.3%, $p < 0,001$). The median length of hospital stay for Influenza-positive patients was numerically shorter in 2019 than in 2018 (25 vs. 37 hours), but the difference did not reach statistical significance ($p = 0.34$).

Conclusions

Implementation of PoC-IT was associated to a marked increase in Influenza-testing and a significantly lower positive-to-negative test ratio, but there was no statistically significant reduction in length of hospital stay for Influenza-positive patients.

Authors:

François-Xavier Duchateau (1), Geoffrey Ramin (2), Melissa-Thérèse Castro (3), Anne Lepetit (4)

1. Medical Operations, Allianz Partners, Paris, France
2. Medical Global Competency Centre Asia Pacific, Allianz Partners, Brisbane, Australia
3. Medical Global Competency Centre America, Allianz Partners, Kitchener, Canada
4. Medical Operations, Allianz Partners, paris, France

Keywords: Covid-19; Medical Assistance; repatriations

Abstract :

Whilst local public health authorities and health care providers play the major role in combatting the evolution of a viral outbreak, the role delineation of International Medical Assistance companies is such that they also are involved in dealing with scenarios such as the current Public Health Emergency of International Concern declared by the World Health Organisation on January 30, 2020.

The role of International Medical Assistance companies is to assist travellers who have become sick/injured during their travels with a principal focus of ensuring that they are capable of receiving appropriate medical care at their current location. We are present in 25 countries and assist 76 nationalities. Our first reported cases came from our Chinese Business Unit on January 23rd 2020, with notification of several Chinese citizens becoming ill in Canada, Thailand, Australia and the USA. This was followed by our Canadian colleagues reporting cases of Canadian patients being identified in China and then progressively we received reports of patients from multiple nationalities and in multiple countries as the weeks progressed. As several business units were involved and the situation was expected to continue developing over many weeks to months, we launched « MedCrisis », our proactive and comprehensive emergency operations plan designed to respond to potential or actual calamitous events. Every potential case worldwide has been reported to the “Medcrisis” Team at Global level which has closely monitored each of these until they have been considered as cured for patients positive for SARS-CoV-2 or until Covid-19 has been definitively ruled out.

As of April 30th, 155 cases have been confirmed positive for SARS-CoV-2 and reported across our network. These 155 confirmed cases were located in 47 different countries. Top 5 countries based on the number of cases were: USA, Japan, Egypt, Spain and Thailand. Of these 155 cases, 74 have been cured, 71 are still under medical care, and 10 died. All patients (critical or less severe but with concerns based on risk profile and/or in locations with limited capabilities) were closely monitored. None required cross-border evacuation because of insufficient level of care.

Because of very little latitude for any medical repatriation and/or cross-border movement out of high-risk areas or in high-risk patients until the patient can either be considered not contagious or cured if previously positive for SARS-CoV-2, principle was ‘no repatriation’. However, exceptions to this may still be required in situations where local facilities have exceptionally limited capacity or lack suitable medical resources to treat, which was not required in this series.

The« MedCrisis » operating process has already shown its effectiveness in previous mass patient events but its core principle will always be the return of victims to their country of origin as early as possible after a calamitous event. For Covid-19 the key strategy of Public Health Authorities has been to be containment, and as such we had to deal with the medical, psychological and social aspects of this new paradigm for crisis management.

Trial Registration / Funding Information (only) :

N/A, no funding

#22817 : Case of an Accidental Self-intravenous Epinephrine Injection by Medical Personnel

Authors:

Hyunseung Koh (1), Duk Ho Kim (1), Heebum Yang (1)

1. Department of Emergency Medicine, Nowon Eulji Medical Center, Eulji University, Seoul, Korea, Republic of

Keywords: Epinephrine, Overdose, medical personnel, Self-administration

Abstract :

We report a case of an accidental self-intravenous epinephrine injection by medical personnel. To our knowledge, there had been no case report of an accidental self-intravenous epinephrine injection and its causative effects.

On September 19th 2019, we received a call from local hospital giving heads up of a patient on a way to our emergency medical center. The patient was twenty eight year old female surgical nurse who accidentally self-administered epinephrine intravenously instead of one ample of Ketocin (Kotorolac tromethamine 30mg/ml) and was in mildly drowsy state afterwards. Her systolic blood pressure repetitively measured around seventy's and was unresponsive to 1.5 liters of isotonic saline infusion and therefore being transferred.

Upon patient's arrival, she stated that while she was preparing for operation as a scrub nurse, she was having severe menstrual cramps. Therefore she had planned to self-inject analgesic before undergoing surgery. She stated she had mistakenly injected one ample of epinephrine 1mg/ml (1:1000 solution) instead, since those two bottle had similar color label.

Vital signs were as follows: blood pressure 82/61 mmHg, respiratory rate nineteen breaths per minute, body temperature 36.3 Celsius and percutaneous oxygen saturation 86%.

Our initial impression was rebound hypotension following epinephrine injection and began our management on the patient. Two liters of oxygen was applied via nasal prong for low oxygen saturation measured, and 400ml of an additional isotonic solution was administered. Chest x-ray revealed pulmonary edema on both lung fields. Arterial line and central line were inserted for continuous monitoring. Central venous pressure was 26.5cm H₂O and cardiac enzymes were elevated above normal range. For treatment of pulmonary edema and presumed congestive heart failure, foley was inserted and one ample of furosemide (20mg/2mg) was intravenously injected.

On September 20th, echocardiography test showed normal sized cardiac chambers with reduced left ventricular systolic function (ejection fraction 45%) and regional wall motion abnormality (RWMA) suggesting mild stress induced cardiomyopathy (SCMP).

Norepinephrine infusion, and oxygen supply was gradually reduced until it was no longer needed. Furthermore, cardiac enzyme levels gradually decreased and follow up x-ray on September 22, showed no signs of pulmonary edema. Eventually, the patient was discharged on September 23rd without any remaining symptoms. On outpatient follow up visit on October 10th, echocardiography result showed normal left ventricular systolic function, and no signs

of RWMA.

There are a few reports of incidence of SCMP caused by incorrect epinephrine dosage or wrong administration route, but no report of SCMP caused by accidental self-intravenous epinephrine administration. Epinephrine is commonly used for treatment of anaphylaxis. Typical treatment dosage for such a case is 0.3~0.5mg of 1:1000 epinephrine via intramuscular or via intravenous bolus of 0.1ml of 1:1000 solution in 10ml of normal saline over 5 to 10 minute period. Our patient injected ten times the recommended medication dosage. It is believed that catecholamine excess caused cardiotoxicity that eventually led to SCMP. Improper dosage of epinephrine can even lead to death. Therefore, strict pharmaceutical management is necessary for prevention of wrongful medication abuse by medical personnel.

#22821 : From systematic review to knowledge translation in emergency medicine: contribution of the Cochrane Pre-hospital and Emergency Care field**Authors:**

Virginie Eve LVOVSCHI (1), Daniel MEYRAN (2), Julie DUMOUCHEL (3), Kirk MAGEE (4), Sébastien BEROU (5), Nordine NEKHILI (6), Yannick AUFFRET (7), Patrick MIROUX (8), Albert TRINH-DUC (9), Patricia JABRE (10)

1. Service d'accueil des Urgences, CHRU Charles Nicolle, Rouen, France
2. SMUR, Bataillon de Marins Pompiers de Marseille, Marseille, France
3. Emergency Department, CHU Tours, TOURS, France
4. Emergency Department, Charles V. Keating Emergency and Trauma Centre, Halifax, Canada
5. SAMU, SAMU de LYON, LYON, France
6. SMUR, SAMU 95, GONESSE, France
7. SMUR, SAMU 29, Quimper, France
8. Emergency Department, CHU ANGERS, ANGERS, France
9. Emergency Department, CH AGEN-NERAC, AGEN, France
10. SAMU, DE PARIS, Paris, France

Keywords: knowledge translation, evidence-based-medicine, physician practice, Cochrane systematic reviews, bedside

Abstract :

Background: Knowledge Translation (KT) is a challenge in Emergency Medicine. There is a need to improve the impact of evidence-based-medicine on physician practice. The traditional approach of publishing systematic reviews in peer-reviewed journal is insufficient to this task in Europe. The Cochrane Pre-hospital and Emergency Care field (Cochrane PEC) is involved in the dissemination of relevant Cochrane systematic reviews (CSR) with practical bedside implications to Emergency Medicine practitioners in several Mediterranean countries and throughout western Europe. In January 2017, The Cochrane PEC embarked on a process to summarise relevant CSR for emergency physicians called "Practical Evidence About Real Life Situations" (PEARLS). We describe a multi-national collaborative approach to KT for the rapid dissemination of clinically relevant information to a broad spectrum of European stakeholders.

Objective: To assess the method, implementation processes and results of the production and dissemination of Cochrane PEC PEARLS in **Europe and Mediterranean countries**.

Method: We present a methodology description of the Cochrane PEC PEARLS and quantitative data about PEARLS diffusion in different medias.

Participants and Setting: Twelve international pre-hospital or in-hospital emergency physicians, using various communication channels, worked in partnership on a regular basis over a short timeframe.

Main outcomes and measures: Qualitative and quantitative assessment of PEARLS diffusion process, delivery channels used and workload.

Results: Cochrane PEC members identified CSR relevant to emergency medicine. Through consensus, reviews which need to be widely disseminated because of their originality or the new practical implications were identified and selected for PEARLS development and video presentation.

Each PEARLS, limited to 200 words, is written by two members before being presented to the working group. From June 2017 to February 2020, 49 PEARLS were written (one per month) and presented during the 30 working group meetings. Subsequent discussion and approval during the meeting took an average of 30 minutes. One hundred and thirty-five hours were devoted to the entire PEARLS production. The PEARLS were published in two scientific journals of Emergency Medicine: 20 in "Mediterranean Journal of Emergency medicine" in English and 29 in "Annales Françaises de Médecine d'Urgence" in French. Recently, four **additional and original** Cochrane summaries were published in "Emergencias" in Spanish.

Fifteen CSRs were selected and transformed into 8-minute videos for the French annual scientific meeting of emergency physicians. These videos are available on the Cochrane PEC website (<https://pec.cochrane.org/>).

Conclusion: The dissemination of Cochrane PEARLS is the result of an international collaboration of dedicated emergency physicians. This very successful standardized KT model is easily reproducible and must be enlarged. Studying its impact on Emergency Practitioners community will be the next step of this KT approach.

#22823 : The diagnostic performance of frailty screening tools validated for the Emergency Department and their feasibility and acceptability among health-care professionals**Authors:**

Nicky Wijnen (1), Rosalien van der Burgh (2), Mareije Visscher (2), Simon Mooijaart (3), Kees Kalisvaart (4), Amy Elliot (5), Bas de Groot (1), Jacinta Lucke (2)

1. Department of Emergency Medicine, Leiden University Medical Center, Leiden, The Netherlands
2. Department of Emergency Medicine, Spaarne Gasthuis, Haarlem, The Netherlands
3. Department of Internal Medicine - section of geriatrics, Leiden University Medical Center, Leiden, The Netherlands
4. Department of Geriatrics, Spaarne Gasthuis, Haarlem, The Netherlands
5. Department of Health Sciences, University of Leicester, Leicester, United Kingdom

Keywords: Geriatrics, frailty screener, nurses, feasibility, geriatric emergency medicine, ED, emergency department

Abstract :

Introduction

Diagnostic performance of many frailty screeners have been validated for the emergency department

(ED) but successful implementation in routine practice also depends on the additional value over

clinical judgment, and the experienced quality and usability by healthcare professionals. Our aim was

to assess the diagnostic performance of frailty screeners and compare it with clinical judgment. Also, we

assessed the experienced quality and usability of four screening tools among healthcare

professionals.

Methods

This was a prospective multi-center study in which healthcare professionals of two Dutch EDs were included. Included healthcare professionals assessed whether a hypothetical older patient presented in a clinical scenario was frail by applying their clinical judgment and two randomly selected screening tools (PRISMA-7, Identification-Seniors-At-Risk-score (ISAR), Clinical Frailty Scale (CFS) or APOP-screener (Acutely Presenting Older Patient, APOP). Diagnostic performance was assessed by using the opinion of an expert panel as gold standard. Time needed to complete the tool was measured and a questionnaire was taken about experienced quality and usability of the tool.

Results

We included 125 emergency healthcare professionals who performed 250 screeners. Clinical judgment had the highest sensitivity (93.5% (95%CI: 88.2-96.6%)) but the lowest specificity (51.0 (95%CI 41.5-60.4%)). APOP had the highest specificity (92.0 (95%CI 75.0-97.8%)) but lowest sensitivity (47.2 (95%CI 32.0-63.0%)). The combination of clinical judgment and the APOP-screener resulted in a sensitivity of 91.7 % (95%CI 78.2-97.1%) and specificity of 56.0% (95%CI 37.1-73.3%). Time to complete screening was ~1 min, not different among screeners ($p>0.05$), as was the experienced quality and ease of use ($p>0.05$).

Conclusions

Our study suggests that frailty can most accurately be assessed in the ED by combining clinical judgment with a validated frailty screening tool. EDs should choose a screening tool based on institutional preferences because of similar time to complete different screeners, experienced quality and usability of the tools.

Trial Registration / Funding Information (only) :

Trial registration did not apply since no patients were involved in this study. All authors declare that no external funding was received for this study.

#22825 : Relatives' negotiation power related to older peoples' acute hospital admission. A qualitative interview study

Authors:

Eva Hoffmann (1), Pernille Tanggaard Andersen (2), Christian Backer Mogensen (3), Christina Lange Prinds (4), Jette Primdahl (5)

1. PhD student, University College South Denmark, Denmark, Department of Regional Health Research, University of Southern Denmark, Odense, Denmark. OPEN, Region of Southern Denmark., Aabenraa, Denmark

2. Professor, Research Unit for Health Promotion, University of Southern Denmark, Esbjerg, Denmark

3. Professor, University Hospital of Southern Jutland, Department of Regional Health Research, University of Southern Denmark, Odense, Denmark., Aabenraa, Denmark

4. Assistant Professor, Research Unit of Obstetrics and Gynecology, University of Southern Denmark, Odense, Denmark, University College South Denmark, , Haderslev, Denmark

5. Professor, Danish Hospital for Rheumatic Diseases, University Hospital of Southern Denmark, Department of Regional Health Research, University of Southern Denmark, Odense, Denmark, Hospital of Southern Jutland, University Hospital of Southern Denmark, Aabenraa, Denmark. , Sønderborg, Denmark

Keywords: Qualitative Content Analysis, Older people, Elderly, Acute hospitalization, Relatives, Next of kin, Health literacy, Caregiver health literacy, Negotiation, Negotiation power

Abstract :**Background:**

Changes in today's welfare models urge individuals to be responsible for their own health and have strong communication competencies to get access to welfare benefits . However, older people who are acutely admitted to hospital, are potentially vulnerable and may depend on relatives to negotiate, navigate and act on their behalf – which might create inequality in access to health care.

Aim:

The aim of this study was to explore relatives' experiences of their contact with HCPs during acute hospital admission of older people and to identify elements of importance for relatives' negotiations with the HCPs.

Method:

We applied a qualitative design with semi-structured individual interviews. Using purposeful sampling, 17 relatives of acutely admitted older people were interviewed at two emergency departments in Denmark. The interviews were audiotaped and transcribed verbatim. The analysis was guided by Graneheim and Lundmans' understanding of qualitative content analysis. Meaningful units were condensed, coded according to the manifest content and sorted into categories. Based on our interpretation of the categories, the categories were condensed into one main theme encompassing four subthemes. NVivo Software version 12 supported the analysis

process.

Results:

The main theme was *Relatives' negotiation power*, an umbrella term encompassing four subthemes: *Activity*, *Capability*, *Motivation* and *Mandate*. 1) *Activity*. Described whether the relatives acted passively, active or proactive in negotiation with health care professionals. 2) *Capability*. Described relatives' knowledge about the older person's everyday-life, general health related knowledge and the health care system. Capability also included relatives' physical, mental and social resources and their abilities to search for information on the Internet 3) *Motivation* described the willingness of relatives to negotiate on behalf of the older person. This could be affected by fundamental values, the relationship to the older person and degree of trust in the health care system. 4) *Mandate*. Described whether relatives were permitted by the older person and other relatives to negotiate and act on behalf of the older person. The association between the four subthemes can be depicted a model called *Model of relatives' negotiation power*. The model describes *relatives' negotiation power* in a specific situation: How active is the relative? How capable is the relatives? How motivated is the relative? And to what extent does the relative have a mandate to act on behalf of the older person?

Conclusion:

Relatives' negotiation power appears to depend on their *activity*, *capability*, *motivation* and *mandate* in a specific situation. These findings are relevant in all clinical settings where relatives of older people communicate with health care professionals. *The model of relatives' negotiation power* can be used as a reflection tool to guide understanding and support to relatives of older people

Trial Registration / Funding Information (only) :

According to the current Danish legislation, the study did not need formal ethical approval from the Regional Scientific Ethical Committees. The study has permission from the Danish Data Protection Agency. The authors take responsibility that the Helsinki Declaration and the Ethical Guidelines for Nursing Research in the Nordic Countries are followed in the study. This study received grants from: University College South Denmark, The Region of Southern Denmark and the Hospital of Southern Jutland, University Hospital of Southern Denmark, Aabenraa, Denmark

#22826 : DETECTION OF MISSED HYPOGLYCAEMIA AT THE EMERGENCY DEPARTMENT.

Authors:

Luis Manclus (1), María Cuenca (2), Immaculada Tormos Miñana (1), Ricardo Muñoz (1), Pedro García (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain
2. Docencia, Formación, Gestión del conocimiento e Investigación, Hospital Universitario de La Ribera, Alzira, Spain

Keywords: Endocrine Diabetes

Abstract :

INTRODUCTION:

The implementation of strategies to improve the detection of hypoglycaemia in diabetic patients with inadvertent hypoglycaemia is essential since inadvertent hypoglycaemia increases the risk of severe hypoglycaemic attacks, which has a negative impact in the quality of life of the patients and shows a greater tendency for developing microvascular complications.

OBJECTIVE:

To acknowledge the rate of patients presenting with inadvertent hypoglycaemia among patients with type II Diabetes Mellitus who requested urgent care in the emergency room using Clarck test.

MATERIAL AND METHODS:

A prospective descriptive observational study was performed to 53 patients presenting Type II Diabetes Mellitus who requested care of any reason to the Emergency Department of La Ribera University Hospital between 1st January and 28th February 2020.

The variables used were: sex and age of the patient, previous treatment for DM, acknowledge of hypoglycaemia symptomatology, frequency of severe hypoglycaemic attacks without fainting during the previous 6 months, frequency of severe hypoglycaemic attacks during the last year, frequency of results inferior to 70 mg/dl during the last month with and without symptoms, values from which the patient starts having and perceiving the clinical presentation of low blood glucose.

RESULTS:

Rate of inadvertent hypoglycaemia was 5,66%. 41,5% had not symptoms while having low-blood glucose levels. A 96,2% had the same symptoms they used to present with a drop in the glucose blood levels. A 11,3% reported having one or more times a month episodes of hypoglycaemia without loss of consciousness during the past 6 months, and a 15,1% reported having severe hypoglycaemic attacks in the past year.

The frequency of readings inferior to 70mg/dl with and with no symptoms was respectively 45,28% and 5,66%.

The value from which the patients mainly reported (81,1%) having symptoms was of 60-90 mg/dl.

Just a 9,4% indicated to be certain about the correlation between blood glucose levels and the symptomatology.

CONCLUSIONS:

The Emergency Department should implement strategies, like Clarck test application, to improve the detection of inadvertent hypoglycaemia. These strategies should be done by a multidisciplinary team and should also involve the Primary Health Care system.

#22827 : ACCOMPLISHMENT OF CHRONIC OBSTRUCTIVE PULMONAR DISEASE CLINICAL GUIDELINES RECOMMENDATIONS AT THE EMERGENCY DEPARTMENT.

Authors:

Luis Manclus (1), María Cuenca (2), Asier Bengoechea (1), Sergio Navarro (1), Alicia Gimeno (3), Ricardo Muñoz (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain
2. Docencia, Formación, Gestión del conocimiento e Investigación, Hospital Universitario de La Ribera, Alzira, Spain
3. Student, Lithuanian University of Health Science, Kaunas, Lithuania

Keywords: RESPIRATORY, TREATMENT

Abstract :

INTRODUCTION:

Chronic Obstructive Pulmonary Disease represents around 1-2% overall services at the Emergency Department.

OBJECTIVE:

To describe the characteristics of the attention to the patients with Chronic Obstructive Pulmonary Disease with exacerbation (acute) and to know the adequacy of the actual guideline's recommendations related to the pharmacological treatment prescribed to the patients.

MATERIAL AND METHODS:

Retrospective descriptive observational study performed to patients diagnosed with COPD exacerbation seen between January-August 2019 at the emergency department in La Ribera University Hospital (Alzira-Valencia-Spain).

The variables used for the study were: sex, age, assigned priority of care, place and time of care, request of additional test, eosinophil value, prescribed treatment and adequacy of the same regarding to the recommendations.

RESULTS:

111 patients were studied having the males ,with a mean age of $73,13 \pm 11,764$ years, a much higher percentage.

The assigned priority level ranged between P2 and P4. The patients were attended mainly in the consultation area and stayed 315,25 minutes on average.

Main pharmacological groups administered were 80,2% LABA and 72% LAMA.

Most frequent combination used was LABA-LAMA-ICS in a 32,43% of the cases followed by LABA-LAMA- in a 28,83% of the cases.

The eosinophil value was equal to or superior to 300 cells/ul in 26 patients, and 17 of them recieved inhaled corticosteroids following GOLD guidelines recommendations.

CONCLUSIONS:

It was observe a treatment regimen not in accordance with the recommendations in 34,6% of the patients

It is essential to carry out and update protocols in the emergency department on prevalent pathologies that adapt to the latest recommendations and guidelines such as GOLD for the care of the patient with Chronic Obstructive Pulmonary Disease.

#22828 : HYPERGLYCAEMIA SECONDARY TO HYPOGLYCAEMIA.

Authors:

Ricardo Muñoz (1), María Cuenca (2), Immaculada Tormos Miñana (1), Asier Bengoechea (1), Luisa Tarraso (1), Luis Manclus (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain
2. Docencia, Formación, Gestión del conocimiento e Investigación, Hospital Universitario de La Ribera, Alzira, Spain

Keywords: Endocrine, Diabetes

Abstract :

INTRODUCTION:

One of the most important therapeutic complication for the patients with diabetes mellitus (DM) is hypoglycaemia.

While administering the treatment, it is important to follow guidelines' recommendations and protocols, since the overcorrection in the glucose level, can provoke metabolic alterations and a descompensatory process in the diabetes. regulation.

OBJECTIVE:

To determine the rate of patients presenting hyperglycaemia subsequent to hypoglycaemia at the emergency department and to analyse the same rate according the type of diabetes and the previous treatment.

MATERIAL AND METHODS:

Observational descriptive and analytical exploratory study performed at the Emergency Department in La Ribera University Hospital. it has been studied patients with a diagnosis of hypoglycaemia at discharge during the months of March and July 2019.

The variables used were: sex, age, cause of hypoglycaemia, hypoglycaemia treatment and presence of subsequent hyperglycaemia (blood glucose at some time during admission after starting treatment greater than or equal to 180mg/dl).

RESULTS:

A total number of 93 patients were studied. The 81,7% has Type II DM. The 21,7% has as basal treatment with non-insulinic hypoglycaemic drugs and insulin previous to the admission to the emergency department. Low-dietary intake of glucose was the main reason of hypoglycaemia (64,52%) followed by administering mistakes (9,68%) and bad control of the disease (8,60%). A 94,6% of the patients was treated with glucose saline (5-10%), a 90,3% of the patients was treated orally and 86% was prescribed with Glucosmon.

Subsequent hyperglycaemia was notice in 43% of the cases and it was slightly superior in patients with Type I DM (56,3% vs 41,3%) $p=0,373$, observing no significant differences ($p=0,652$) while studying the presence of hyperglycaemia regarding the patient's previous treatment: 45% of hyperglycaemia was observed in the group of patients with a basal treatment with non-insulinic hypoglycaemic drugs, 48,6% in patients receiving insulin and 37,8% in patients treated with a combination treatment with the above mention drugs.

CONCLUSION:

The study found a high percentages of hyperglycaemia in the group of patients who visited the emergency department due to hypoglycaemia, which results give us an evidence of non-follow up correctly of the clinical recommendations and guidelines.

#22829 : Machine learning based triage to identify low acuity patient with short length of stay**Authors:**

Yu-Hsin Chang (1), Yu-Hsin Chang (1), Hong-Mo Shih (1)

1. Emergency department, China Medical University Hospital, Taichung city, Taiwan, China

Keywords: Machine learning, emergency medicine, triage, short length of stay, low acuity patient, fast track, artificial intelligence

Abstract :

Background

Surging emergency visits is a critical issue and causing overcrowding in emergency room worldwide. To improve the patient flow, streaming, team triage and point-of-care testing are all possible candidates to alleviate the crowding.[2] Of note, fast track is the most common applied method of streaming, and several studies has illustrated it could reduce waiting time, and length of stay.[3-6] However, the criteria of patient allocating for fast track varied according to different hospitals. In the conventional triage based on five-level emergency severity index (ESI), level 3 accounts for the majority with many over-triage and under-triage patients inside, and it constitutes about 70% of total ED visits in our hospital. To identify lower acuity patients (especially those over-triaged in level 3 ESI) is crucial for establishment of efficient streaming, and we aim to focus on prediction of those discharged with short length of stay (LOS) by the machine-learning assisted triage. We aim to set up a machine-learning model trained only with information recorded by triage nurse to predict the low acuity patients with short LOS. The final model will be applied in the following establishment of fast track to screen the ideal candidates.

Methods:

It was a retrospective study, established in emergency department (ED) of China Medical University Hospital (CMUH). CMUH is a 1700-bed, urban, academic, tertiary care hospital with approximate 150,000 to 160,000 ED visits annually. In the study period, we had 33 physicians, 16 residents and 76 nurses. 2 nurses are responsible for triage in each shift during 08:00-16:00 and 16:00-24:00 and 1 nurse is in charge in the remaining hours.

We enrolled adult patients (Age \geq 20 years) since Jan. 2018 to Dec. 2018. Exclusion criteria included 1. Death on arrival 2. Trauma 3. left without been seen or against medical advice 4. Missing information or 5. inconsistent data (i.e., systolic blood pressure (SBP) > 300 mmHg or <30 mmHg, diastolic blood pressure (DBP) > 300 mmHg, SBP < DBP, pulse rate > 300/min or < 20/min, respiratory rate > 60/min, body temperature >45 or <30 Celsius degree, and body mass index >150 or <5).

This study was approved by the Institutional Review Board of the China Medical University (CMUH109-REC1-021).

Data collection and processing

The data were extracted by electronic database, and they were recorded by each triage nurse. The information included age, sex, underlying disease, mode of arrival, ESI level, vital signs, body mass index (BMI), transferred facility, 3 days unscheduled return, any form of catheters (endotracheal tube, tracheostomy tube, central vein catheter, chest tube, etc.), intensive ED visits (over twice weekly, or 3 times monthly), chief complaint. Chief complaints were categorized into different systems and sub-group according to the Reason for Visit Classification for Ambulatory Care provided

Results:

Discussion & Conclusions:

#22831 : Timing of antibiotic therapy and outcomes in adult emergency department patients with community acquired pneumonia – A cohort study**Authors:**

Mia Hansen Mandau (1), Søren Flink Sørensen (1), Stig Holm Jensen (1), Ida Katrine Thomsen (1), Hans Kirkegaard (1), Marianne Lisby (1)

1. Emergency Department, Aarhus University Hospital, Research Center for Emergency Medicine, Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

Keywords: Emergency Department, Emergency Medicine, Community Acquired Pneumonia, Initiation of antibiotic therapy

Abstract :**Introduction**

Community acquired pneumonia (CAP) is a leading cause of hospitalization and mortality worldwide.

When managing CAP in the emergency department (ED) critical decisions must be made with consideration to timely initiation of antibiotic therapy and the emerging antimicrobial. International guidelines recommend that the initial dose of antibiotic therapy is administered within 4 hours of arrival. However, this creates a clinical dilemma of striving to follow the 4-hour criteria while being considerate to the emerging antimicrobial resistance. Knowledge on clinically relevant outcomes can help assist the decision-making when in dilemma about initiating antibiotic therapy. This study aims to compare difference in length of stay (LOS), 30-day readmission and 30-day mortality among patients with CAP receiving early versus delayed antibiotic therapy defined as <4 hours and \geq 4 hours upon arrival to the ED.

Method

This cohort study includes all contacts (\geq 18 years) attending the ED at Aarhus University Hospital in a full year period from 1st of July 2016 to 30th of June 2017. Patients were identified using the final discharge diagnosis (ICD10 codes: J15 and J18) (n=950). Patients with CAP who did not receive antibiotic therapy were excluded (n=550). Data was retrieved from the electronic medical record system used by the Central Denmark Region and vital status from the Danish Civil Registration System. Exposure was time to first dose of antibiotic therapy from arrival to the ED and patients were stratified into two groups: early (<4 hours) and delayed (\geq 4 hours) initiation. Outcomes were total LOS in days and incidence proportions of 30-day readmission and 30-day mortality. A linear regression model was applied to determine differences in LOS and for binary outcomes a logistic regression model was applied to determine odds ratios (OR). The models were adjusted for age and triage colour.

Results

Out of 400 patients with CAP 138 received early and 262 delayed antibiotic therapy. The median age at arrival was 77 years and 51.50% of patients were male. There was no difference in patient characteristics between groups. Early initiation had an average LOS of 5.19 (95%CI 4.20;6.17) days and the delayed 4.86 (95%CI 4.36;5.37) days. 9.42% of patients in the early group and 10.31% in the delayed group were readmitted within 30 days. The 30-day mortality in the early group was 15.22% and 11.07% in the delayed group. The logistic regression model showed a crude OR of 0.69 (95%CI 0.37;1.26) on 30-day mortality for the delayed group compared to the early group. After adjusting the OR was 1.13 (95%CI 0.52;2.45). For 30-day readmission the crude OR was 1.10 (95%CI 0.55;2.21) and the adjusted OR was 1.38 (95%CI 0.63;3.03).

Conclusion

This study found no clinically relevant difference in LOS, 30-day readmission or 30-day mortality between the early and delayed initiation of antibiotic therapy groups. Although timely administration of antibiotic therapy is important and should be encouraged, initiation of early antibiotic therapy within 4 hours of arrival is not supported by the clinical evidence. This knowledge can help assist the decision-making of initiation of antibiotic therapy.

Trial Registration / Funding Information (only) :

Funding: This study did not receive any specific funding. Ethical approval and informed consent: Not needed.

#22836 : Elevation of circulating IFI44L mRNA level in emergency patients with viral infection

Authors:

Ling Yan Leung (1), Mikkel Brabrand (2), Kei Ching Kevin Hung (1), Colin Graham (1)

1. Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong, Hong Kong , Hong Kong

2. Department of Emergency Medicine, Odense University Hospital, Odense, Denmark

Keywords: emergency department, IFI44L mRNA, viral infection

Abstract :Background

In a recent study on children (aimed to examine circulating FAM89A and IFI44L levels in bacterially and virally infected adult patients presenting to the emergency department (ED).

Materials and methods

This is a prospective single-centre study conducted in the ED of Prince of Wales Hospital in Hong Kong from July to September 2017. ED patients presenting with suspected infection were recruited. Venous blood samples were collected and buffy coat FAM89A and IFI44L mRNA levels were measured using real-time polymerase chain reaction (PCR). Beta-2-microglobulin (B2M) was used as a control gene.

Results

Among 67 patients recruited (median age 69 years, IQR 56–84; 46.3% male), 41.8% (28/67) had microbiological pathogens detected in suitable samples (urine, sputum, etc). We have analyzed FAM89A and IFI44L gene expression in these 28 patients. Of 28 patients with detected pathogens, 17 were confirmed to have bacterial infections and 11 were confirmed to have viral infections. Higher median circulating IFI44L mRNA levels were found in patients with viral infection than patients with bacterial infection (2.96 vs 0.076 ng/ng B2M, $p < 0.001$). However, there were no differences in FAM89A mRNA levels between bacterial and viral infection (0.137 vs 0.100 ng/ng B2M, $p = 0.410$). There were no differences in B2M levels between groups. The area under the curve (AUC) of FAM89A, IFI44L and the combination of FAM89A and IFI44L were 0.594 (95%CI: 0.393 to 0.774), 0.904 (95%CI: 0.732 to 0.982) and 0.973 (95%CI: 0.831 to 1.00) respectively.

Discussion & Conclusions

This study shows that circulating IFI44L mRNA levels were higher in patients with viral infection than those with bacterial infection, with a high AUC for IFI44L to differentiate between bacterial and viral infections. IFI44L could be a useful potential marker to improve the early diagnosis of bacterial or viral infection in adult ED patients, which could improve treatment decisions and reduce inappropriate antibiotic prescribing.

Trial Registration / Funding Information (only) :

Trial Registration: Non clinical trial study. Funding Information: This study did not receive any specific funding

#22837 : Prognostic values of serum albumin and venous lactate in the emergency department - prospective study

Authors:

Ling Yan Leung (1), Kei Ching Kevin Hung (1), Ronson Sze Long Lo (2), Joseph Walline (1), Suet Yi Chan (2), Chun Yu Yeung (2), Colin Graham (1)

1. Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong, Hong Kong, Hong Kong

2. , Accident and Emergency Medicine Unit, The Chinese University of Hong Kong, Hong Kong, Hong Kong

Keywords: emergency department, serum albumin, venous lactate, mortality

Abstract :**Background**

Lactate and serum albumin are commonly measured in the emergency department (ED) and hospitalized patients respectively. High lactate levels and low serum albumin levels are associated with increased mortality and morbidity.

Aim

Our study aimed to investigate the prognostic value of serum albumin and venous lactate in ED patients.

Methods

Prospective single-centre study conducted in the ED of Prince of Wales between July 2016 and June 2017. We recruited 1253 ED patients who were triaged as category 2 (Emergency) and 3 (Urgent). Values of serum albumin and venous lactate were determined. The outcome measure was 30-day mortality. The prognostic value of serum albumin and venous lactate to predict 30-day mortality was calculated. Receiver Operating Characteristic analyses were performed to determine the Area Under the Curve (AUC), sensitivity, specificity, positive and negative predictive value, positive and negative likelihood ratio for serum albumin

Results

Total of 1253 patients (male:50.9%, median age:72 years). Results were available for 1203/1253 (96.0%) and 1248/1253 (99.6%) patients for serum albumin levels and venous lactate levels respectively. 42.9%, 34.8% and 15.3% of patients had low albumin, high lactate and both low albumin and high lactate levels respectively. Overall 30-day mortality was 5.7%. Low albumin levels and higher venous lactate levels were found in patients who died compared to survivors ($p < 0.001$). The prognostic value for prediction of 30-day mortality, with AUCs for $Alb < 35$, $VL \geq 2$ and $Alb < 35 + VL \geq 2$ were 0.74 (95%CI 0.72–0.77), 0.64 (95%CI 0.61–0.66) and 0.68 (95%CI 0.68–0.73) respectively. Using pairwise comparison of ROC curves, Alb

Discussion and conclusions

Among emergency and urgent ED patients, the prognostic value of Alb and Alb + VL were greater than VL alone in predicting 30-day mortality.

Trial Registration / Funding Information (only) :

Trial Registration: ClinicalTrials.gov (NCT02817581). Funding Information: This study did not receive any specific funding.

#22838 : 24-hour fluid administration in emergency department patients with suspected infection - a prospective, descriptive, multicenter study

Authors:

Marie Kristine Jessen Pedersen (1), Sofie Kildegaard (2), Poul Petersen (3), Anders Perner (4), Jens Aage Kølsen Petersen (5), Lars Wiuff Andersen (1), Hans Kirkegaard (1)

1. Research Center for Emergency Medicine, Aarhus University Hospital, Aarhus, Denmark
2. Emergency Department, Regional Hospital Randers, Randers, Denmark
3. Emergency Department, Regional Hospital Herning, Herning, Denmark
4. Department of anesthesiology and intensive care, Rigshospitalet, Copenhagen, Denmark
5. Department of anesthesiology, Aarhus University Hospital, Aarhus, Denmark

Keywords: infection, sepsis, fluid, resuscitation, observational

Abstract :**Background**

Fluid administration to patients with sepsis and septic shock has traditionally been regarded a cornerstone of treatment. Knowledge about fluid administration for patients with suspected infection and sepsis without shock is lacking, even though sepsis is 60 times more common than septic shock. We aimed to describe current fluid administration practices in Emergency Department (ED) patients with suspected infection.

Methods

This study was a multicenter, prospective, observational study investigating early fluid administration practices in ED patients with suspected infection. Consecutive patients were included from Jan 20th through March 2nd 2020 at Aarhus University Hospital and two regional hospitals (Randers and Herning). Suspected infection was defined as ordering of a blood culture and/or intravenous antibiotics within 6 hours of admission to the ED.

Oral and intravenous fluids were registered for 24 hours on a paper case report form. The primary outcome was the total amount of fluid within 24 hours.

Results

Preliminary data from the first 362 patients show that the median volume of administered fluid was 1300 ml. (1. and 3. quartile: 975;1950) within 6 hours and 3175 ml. (1. and 3. quartile: 2100;4325) within the first 24 hours, equivalent to 18 and 42 ml/kg bodyweight, respectively. Peroral fluids accounted for 400 ml. (1. and 3. quartile: 150;850) within 6 hours and 1450 ml (1. and 3. quartile: 800;2200) within 24 hours. The remaining data is being processed and will be presented at EUSEM 2020.

Conclusions

Preliminary data indicate that ED patients with suspected infection receive a large volume of fluid within the first 24 hours. This study will add important knowledge about fluid resuscitation in patients with suspected infection and sepsis without shock. The results will provide data for the design of a randomized feasibility trial investigating two fluid strategies in patients with sepsis without shock.

Trial Registration / Funding Information (only) :

The study has been funded by Aarhus University and "Holger and Ruth Hesses Foundation". Danish Patient Safety Authority journal number: 31-1521-188

#22839 : Leaving against medical advice: results from a prospective national cross-sectional survey of emergency medicine providers in china

Authors:

Joseph Walline (1), Priscilla Song (2), Kevin Hung (1), Colin Graham (1)

1. Accident and Emergency Medicine Academic Unit, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, Hong Kong
2. Centre for the Humanities and Medicine, The University of Hong Kong, Hong Kong, Hong Kong

Keywords: against medical advice, discharge, china, survey

Abstract :**Background**

Deciding when a patient can leave the emergency department (ED) against medical advice (AMA) is a fundamental task of emergency medicine providers. Although the notion of patient autonomy is emerging in the People's Republic of China, there remains a strong traditional consensus that the family should make medical decisions for the patient. China's fee-for-service medical care system also highlights the issue of payment and whether lack of funds should lead to leaving AMA. This prospective study sought to document and explore emergency medicine provider attitudes towards patients leaving AMA from EDs in mainland China, and identify any associations with gender, professional role, seniority, or practice location.

Methods

This prospective survey was conducted on April 12-14, 2019 at a national emergency medicine conference in Beijing, China. Clinically active emergency medicine physician and nursing attendees (aged > 18) were recruited to complete an online survey using REDCap for data collection and management. Descriptive statistics and chi-squared analysis were performed using SPSS.

Results

737 completed surveys were collected from a total of 2990 attendees (24.6%). 423 (57.6%) respondents identified as male. 31 province-level divisions of the People's Republic of China were represented. 617 (83.7%) of respondents were physicians and 120 (16.3%) were nurses. 571 (78.2%), worked in the same province they were born and 482 (67.5%) worked in the same hospital they did clinical training.

In considering a patient's leaving AMA from the ED, the following reasons were considered acceptable by most respondents: 476 (68.8%) cited patients refusing treatment, 474 (68.5%) cited families refusing treatment, and 572 (82.7%) if the patient's condition was incurable. 214 (30.9%) respondents agreed that patients could leave if they personally could not pay for treatment, while 278 (40.2%) found leaving acceptable if the family was unable pay for treatment.

A larger percentage of physicians (84.2%) than nurses (74.0%, $p=0.012$) agreed that leaving the ED was valid if the patient's condition was incurable. More female (103 (35.5%)) respondents than male (111 (27.8%)) agreed that patients who could not pay for treatment was a valid reason to leave the ED ($p=0.031$). There were no other significant gender, professional role, seniority, or practice location associations with these factors.

Discussion and Conclusions:

This survey found that a significant majority of healthcare workers in Chinese EDs found it acceptable for either patients or families to refuse further care and leave the ED. It becomes more controversial if the AMA discharge occurs because of a lack of ability to pay medical fees, which most respondents felt was unacceptable. Comparing patients versus families' ability to pay for treatment, 10% more of survey respondents felt that the latter was a more acceptable reason for patient discharge. More physicians than nurses agreed that leaving AMA was valid if the patient's condition was incurable, although the overwhelming majority in both groups found this to be an acceptable reason.

Trial Registration / Funding Information (only) :

None

#22842 : Proposal for the development of the Pan-European Emergency Medicine Airway Registry**Authors:**

Irene Grossi (1), Brian MacCarthy (1), Etimbuk Umana (2), Damien Ryan (1), Fergal Cummins (1)

1. Emergency Department, University Hospital Limerick, Limerick, Ireland
2. Emergency Department, Connolly Hospital Blanchardstown, Dublin, Ireland

Keywords: advanced airway management, RSI, emergency intubation, resuscitation room, airway registry

Abstract :**Introduction:**

Rapid sequence induction (RSI) is a life-saving procedure and is a skill that every emergency physician must be able to deliver in the safest and timeliest manner. It should be performed in a predictable and reproducible manner that ensures highest likelihood of success. It is, however, a high-risk, low frequency procedure that has been shown to have an increased rate of severe complications when performed in the emergency department as compared to other controlled hospital environments such as the operating theatre.

The aim of the Pan-European airway registry is to assess the practice of endotracheal intubation in European Emergency Departments. This will provide a local, regional, national overview of emergency airway management in order to audit and therefore improve the quality of care delivered to continuously improve patient outcomes.

It will also allow for assessment of standards at a national level, with the additional benefits of benchmarking emergency airway management helping each ED to maintain standards.

Methods:

We developed the Emergency Medicine Airway Registry-Ireland (EMAR-I) working in multiple levels. We aim to translate this process across all European EM societies and organisations following the system outlined.

We conducted an evidence-based review of the existing local and international guidelines and developed guideline recommendations for the assessment and management of patients requiring emergency intubation in the resuscitation room.

Subsequently we created an airway proforma based on the guidelines and submitted to a national body, the Irish Association of Emergency Medicine (IAEM), for review.

Following the successful experience of the airway registry introduced in Australia and New Zealand, we initiated a collaboration with the Royal North Shore Hospital in Sydney for the development of an audit tool that was implemented as part of the airway proforma.

Results

The national guideline for emergency intubation in the resuscitation room and the airway proforma have been approved by the IAEM Clinical Guidelines Committee.

A collaboration has been initiated with the Emergency Medicine Programme (EMP) and National Office of Clinical Audit (NOCA).

Local ethics approval for the EMAR-I was granted.

A national electronic airway database using the REDCap software was developed to store the data and make it accessible to all EDs for data collection.

A pilot-study commenced on the 1st of February 2020 and will run for two months across 16 EDs. Its purpose was to test the usability of the audit tool designed for the EMAR-I.

Conclusion:

RSI in the emergency departments is a high risk, low frequency procedure for which providers must perform to the highest standard. It is a procedure frequently employed across EDs in Europe but the exact nature and frequency is unknown. A common approach and subsequent audit will lead to an improvement in outcomes.

We advocate the creation of a Pan-European airway registry to be rolled-out by each national society in conjunction with EUSEM based on the model we have developed for Ireland, as a feasible tool to assess the practice of emergency intubation in European EDs.

Trial Registration / Funding Information (only) :

We achieved national funding for the implementation of this project through HSE-Spark innovation seed findings.

#22843 : Are children presenting to the paediatric emergency department with acute wheeze being appropriately followed up in primary care?

Authors:

Sanjoy Roy (1), Rhys Beynon (1), Richard Chavasse (2), Joanne Lawson (2)

1. Emergency Medicine, St. Georges University Hospital, London, London, United Kingdom
2. Paediatrics, St. Georges University Hospital, London, London, United Kingdom

Keywords: Paediatrics, Wheeze, Asthma, General Practice

Abstract :**Title**

Are children presenting to the paediatric emergency department with acute wheeze being appropriately followed up in primary care?

Background

Viral wheeze and acute exacerbations of asthma are one of the commonest ED presentations amongst the paediatric population. Whilst the vast majority of these children are treated successfully and discharged home, a further problem arises from their aftercare.

Many children with asthma have poor control of their condition, often as a consequence of poor compliance to preventative therapy. We estimate that that 75% of hospital admissions for asthma and as many as 90% of the deaths from asthma are preventable.

Most patients can achieve effective control of their asthma in partnership with primary care. Current British Thoracic Society (BTS) guidelines state that "prior to discharge, follow up should be arranged with the patient's general practitioner or asthma nurse within two working days", with the aim to prevent further emergency admissions by exploring factors that contribute to poor self-care.

Aims

This study was based in St. Georges University Hospital in South London – a tertiary hospital with a dedicated paediatric emergency department and respiratory team, who were involved in the care of 316 children presenting with acute wheeze in 2019. The aim of this project was to elicit what proportion of patients presenting with acute wheeze were followed up within 2 working days in primary care, and what was contributing towards their non attendance.

Methods

We performed a retrospective quantitative study, obtaining a consecutive sample of children and young people aged between 1 and 18 years with a final diagnosis of Asthma or Viral Wheeze. These patients should have received repeated doses of bronchodilators and/or steroids to warrant a review within 2 days.

From this patient cohort, their respective general practice was contacted to elicit whether the patient attended within 2 working days and the rationale for their attendance.

Results

There were 51 paediatric patients presenting with acute wheeze between the 30th August and 19th September 2019, of which 45 warranted a review in primary care within 2 working days. Only 20 (44.4%) received appropriate follow up by their GP or Asthma nurse. For the remaining 25 patients, 11 had difficulty getting access to an appointment on time, 2 had a telephone consultation instead, and 11 were unexplained. We also found deficits in documentation where 19 patients failed to have discharge summaries prompting GPs for the need of a review.

Discussion and Conclusions

This study highlighted that most children presenting to ED with acute wheeze were unable to attend a follow up appointment in primary care within 2 working days. We are in the process of engaging with key stakeholders to highlight and address what barriers are contributing towards these difficulties, as part of a quality improvement project in the trust. The hope is that we can emphasise the importance and awareness of the review to patients and primary care through education, clear channels of communication and facilitating access to GP appointments.

#22845 : Prehospital association of first-pass intubation success and return of spontaneous circulation in out-of-hospital cardiac arrest: a multicentre retrospective analysis of registry data (FiPS-CPR)

Authors:

Sarah Montag (1), Steffen Herdtle (2)

1. Department of Emergency Medicine, University Hospital Jena, Jena, Germany

2. Department of Emergency Medicine, Hospital Agatharied, Agatharied, Germany

Keywords: first-pass intubation success, airway management, cardiopulmonary resuscitation, out-of-hospital cardiac arrest, return of spontaneous circulation

Abstract :**Background**

Current studies underline the importance of a successful first intubation attempt (FPS), if intubation is performed during clinical cardiopulmonary resuscitation (CPR). The intubation process usually goes along with pausing the chest compressions. It is known that those interruptions reduce the chances of the return of spontaneous circulation (ROSC). In the context of hospital treatment of out-of-hospital cardiac arrests (OHCA), it was observed that patients achieved ROSC less frequently after initially failed intubation.

The purpose of this study was to research factors, which influence FPS and ROSC, and to analyse the association between both during prehospital treatment of OHCA. We hypothesised that, if FPS was achieved, probability of ROSC increased and time to ROSC decreased.

Methods

This was a retrospective multicentre registry study of 5 German physician-staffed ambulance stations in the period of 01.07.2017 to 31.12.2018. We examined data of 213 adult patients with non-traumatic OHCA on whom prehospital airway management was practiced by physicians. For information on airway management and FPS we used the Intubation Registry. Additionally, we used data from the German Resuscitation Registry about CPR and ROSC. The registries data were gathered by online questionnaires. The primary outcomes were FPS and ROSC, the secondary was time to ROSC. For the statistical evaluation we applied Mann-Whitney tests, Chi-square tests, Fisher's exact tests and multivariate binary logistic regressions.

Results

The study population (n=180) showed following demography: average age of 69.74 years (SD 12.9), median body weight of 82.5 kg (IQR 75.95) and 71.7% male patients.

The FPS was 83.3%. Increased body weight was significantly associated with lower FPS (p=0.044). The connections between level of education (p=1.000) or specialisation (p=0.335) of intubators

and FPS were not significant. Most patients (83.9%) were intubated using endotracheal tube. We found no significant connection between selected equipment ($p=0.196$) or intubation method ($p=0.901$) and FPS. The tube position was most often verified using auscultation (80%) and capnography (72.2%). FPS decreased with an increasing degree of airway assessment according to Cormack and Lehane ($p<0.001$). The multivariate regression showed, that complications correlated negatively with FPS (OR 0.056, CI 0.014-0.214).

Overall, 82 patients (45.6%) achieved prehospital ROSC with an average time of 22.16 min. The multivariate regression showed, that the chance of ROSC increased, if initial heart rhythm was ventricular fibrillation (OR 2.661, CI 0.762-9.294) and initial breathing was gasping (OR 2.436, CI 0.289-20.543).

We found positive correlation ($p=0.027$) between FPS and ROSC. The probability of ROSC increased significantly with FPS (OR 5.281, CI: 1.810-15.521) and decreased with increased number of intubation attempts (49.3% first attempt, 0% fourth attempt). With achieved FPS, time to ROSC was reduced by an average of 10 min, but not significantly ($p=0.059$).

Discussion & Conclusion

For complete evaluations of registry data, it is important to increase the compliance with complete filling of the questionnaires. Prospectively this first intersection of the Intubation Registry and German Resuscitation Registry should be repeated with larger power. Nevertheless, our study still showed, that prehospital FPS is important for reaching ROSC and reducing time to ROSC while treating OHCA.

Trial Registration / Funding Information (only) :

Following ethics committees agreed to carry out the study: Ethics committee University Hospital Jena (2019-1318-Daten) and Ethics committee University Hospital Tübingen (116/2019B02). This study did not receive any specific funding.

#22847 : Evaluation of an artificial intelligence system for diagnosing scaphoid fracture on direct radiography

Authors:

Emre Ozkaya (1), Fatih Esad Topal (1), Tugrul Bulut (2), Merve Gursoy (3), Mustafa Ozuysal (4), Zeynep Karakaya (1)

1. Department of Emergency Medicine, Izmir Katip Celebi University Ataturk Training and Research Hospital, Izmir, Turkey
2. Department of Orthopaedics and Traumatology, Izmir Katip Celebi University Ataturk Training and Research Hospital, Izmir, Turkey
3. Department of Radiology, Izmir Democracy University, Izmir, Turkey
4. Department of Computer Engineering, Izmir Institute of Technology, Izmir, Turkey

Keywords: Scaphoid, fracture, deep learning, artificial intelligence, radiography

Abstract :**Background**

The first-line imaging method for diagnosing scaphoid fractures is standard radiographs. However, it is difficult, particularly for physicians inexperienced in hand surgery, to accurately evaluate and interpret wrist radiographs due to its complex anatomical structure. This situation may cause these fractures to be missed, especially in emergency departments (EDs). Therefore, it is extremely critical to develop new and easily accessible methods for the early and accurate diagnosis of fractures on plain radiography.

Deep learning is a machine learning approach that is based on training artificial neural networks. For image analysis, usually convolutional neural network (CNN) layers that learn a set of image filters are used, leading to more efficient analysis of the image data. In recent years, it has been shown in limited studies that deep learning with the use of CNN can be used for diagnosing bone fractures.

The study aims to determine the diagnostic performance of the deep learning algorithm with the use of CNN for detecting scaphoid fractures on anteroposterior (AP) wrist radiographs. We then compared the performance of the deep learning algorithm with that of ED physician and general orthopedist.

Methods

A total 390 patients with AP wrist radiographs were included into the study. The presence/absence of the fracture on radiographs was confirmed via CT. Furthermore, 75% of the 390 images were assigned to the training and validation sets. The diagnostic performance of the CNNs, ED physician and orthopedist as measured by AUC, sensitivity, specificity, F-Score and Youden index, to detect scaphoid fractures was evaluated and compared between the groups.

Results

Deep learning CNN model was calculated to have 76% sensitivity and 92% specificity, 0.840 AUC, 0.680 Youden index and 0.826 F score in distinguishing between normal and fractured scaphoids. We calculated the same values for each group of ED physician and orthopedist as with the CNN and then compared the values. The sensitivity for ED physician and orthopedist was 62%, 72%, specificity was 90%, 92%, AUC was 0.760, 0.820, the Youden index was 0.520, 0.640

and F score was 0.721, 0.800 respectively. Both the AUC and sensitivity values of CNN were statistically significantly higher than the ED physician ($p=0.003$, $p=0.023$). Although not in all comparisons statistically significant, CNN was superior to both the ED physician and the general orthopedist in detecting scaphoid fractures. CNN had the highest AUC value among all the groups.

Discussion & Conclusions

This study showed that the deep learning algorithm has the potential to be used for diagnosing scaphoid fractures on plain radiographs. Artificial intelligence can accurately diagnose scaphoid fractures in wrist AP radiographs. Because this system can be operated in multiple centers at the same time, the training of the system can be quickly completed because of the additional data, and its current sensitivity can be increased. With this artificial intelligence-based automatic diagnosis system developed for the diagnosis of scaphoid fractures, wrist radiographs can be accurately interpreted, and the results can be reported almost instantly. This is highly promising for the future.

Trial Registration / Funding Information (only) :

Trial Registration The study was not registered because it is a study that includes retrospective analysis of radiological images. This retrospective study was approved by the Institutional Review Board of our hospital (IRB#440). Due to the retrospective nature of the study, informed consent by patients and providers was not required. **Funding Information** This study did not receive any specific funding.

#22848 : Ambulatory Care Score for Atrial Fibrillation: a score for decision support of new-onset atrial fibrillation in an emergency department without cardiological advice, a prospective, observational, comparative and monocentric study

Authors:

Constance Michiels (1), François Outteryck (2), Perrine Libert (1), Carole Godesence (1), Rémy Diesnis (1)

1. Emergency Department, Hospital Center of Roubaix, Roubaix, France
2. Cardiology Department, Hospital Center of Roubaix, Roubaix, France

Keywords: atrial fibrillation, new-onset atrial fibrillation, score, cardiology, emergency department

Abstract :

Background: Ageing population increase prevalence of atrial fibrillation (AF). It leads to significant health care resource use, essentially because of hospitalizations cost. Based on European and French recommendations, we built ACSAF (Ambulatory Care Score for Atrial Fibrillation) for ambulatory management without cardiological advice in an emergency department (ED). It includes 8 items: age > 75 years old, heart failure, myocardial infarction, chronic kidney disease, valvular atrial fibrillation, AF < 48 hours, bleeding risk with anticoagulation, heart rate, trigger factor. The main objective of the study is to develop a score for new-onset atrial fibrillation (NOAF) management in an ED without cardiological advice in comparison with cardiological advice (gold standard). The secondary objectives are to evaluate cardiological follow-up and rehospitalization.

Methods: This prospective, observational, comparative and monocentric study was realized from November 2018 to October 2019. All patients aged 18 years old and older with NOAF were included. Patients with systolic blood pressure < 80 mmHg or heart rate > 180 bpm were secondarily excluded. Clinical and paraclinical data for calculation of ACSAF were recorded. Calculation of ACSAF was made in blind of orientation decision during the ED visit. Follow-up within 3 months consists of a phone interview for data collection of cardiology visit, delay and rehospitalization. The primary outcome is the mean of ACSAF between ambulatory care group and hospitalization group with the ROC curve to search the best threshold. The secondary outcomes are the cardiology visit rate, mean of delay and rehospitalization rate between ambulatory care group and hospitalization group.

Results: 81 NOAF was included, aged 69 ± 16 years old, including 42 men (51,9 %). ACSAF is higher in hospitalization group $2,16 \pm 1,05$ against $1,03 \pm 0,97$ in ambulatory care group ($p < 0,05$). The optimal ACSAF threshold is 2 with a sensibility of 71,4% IC95% [57,1-83,7] and a specificity of 81,2% [68,8-93,8]. The area under the ROC curve of ACSAF was 0,70 IC95% [0,70-0,89]. The comparison between ambulatory care and hospitalization group is significantly different for variables in relation with items of ACSAF. 69 patients could be called within 3 months (30 in ambulatory care group and 39 in hospitalization group), 27 patients (90%) had a cardiological visit in ambulatory group against 23 (59 %) in hospitalization group ($p < 0,05$) without an increase visit delay (66 days $\pm 62,6$ in ambulatory group vs 56,4 days $\pm 45,7$ in hospitalization group; $p=0,55$). 3 patients (10,3 %) was readmitted in ambulatory care group against 17 patients (43,6%) in hospitalization group ($p < 0,05$).

Discussion & Conclusion: ACSAF allows to determine orientation for NOAF during the ED visit without cardiological advice. Follow-up is better in ambulatory group than hospitalization group, and less rehospitalization within 3 months.

Trial Registration / Funding Information (only) :

Our study was approved by the Comité de Protection des Personnes Ile-de-France 3 (French ethics committee) and registered with the Agence Nationale de Sécurité du Médicament et des produits de santé (French medicines agency - ID RCB 2018-A01800-55). Our study does not receive any specific funding.

#22851 : Prognostic value of change of cardiac rhythm in out-of-hospital cardiac arrest patients without prehospital return of spontaneous circulation: A nationwide Observation Study.**Authors:**

Jae Guk Kim (1), Wonhee Kim (2), Hyun Young Choi (2), Chiwon Ahn (2), Juncheol Lee (2), Shinje Moon (2), Jihoon Kim (2), Hyungoo Shin (2)

1. , , Seoul, Korea, Republic of

2. , none, Seoul, Korea, Republic of

Keywords: cardiac rhythm, cardiac arrest

Abstract :**Introduction:**

During cardiopulmonary resuscitation, the cardiac rhythm of patients may transition between shockable rhythm and non-shockable rhythm. This study aimed to assess the prognostic value of change of cardiac rhythm in out-of-hospital cardiac arrest (OHCA) patients without prehospital return of spontaneous circulation (ROSC).

Method:

This was a retrospective analysis using nationwide, population based data of South Korea between 2012 and 2016. We included patients with OHCA with a medical cause and without prehospital ROSC. Studied patients were classified into four groups according to the change of cardiac rhythm: (1) SRSR group, which had shockable rhythm at both initial prehospital stage and emergency department (ED), (2) SRNSR group, which had an initial shockable rhythm with changing into a non-shockable rhythm in ED, (3) NSRSR group, which had an initial non-shockable rhythm with changing into a shockable rhythm in ED, and (4) NSRNSR group, which had non-shockable rhythm at both initial prehospital stage and ED. The primary outcome was the good neurological outcome at hospital discharge and the secondary outcome was the survival to hospital discharge.

Results:

Among 142,905 OHCA patients, the final analysis included a total of 51,060 eligible patients (SRSR 4,223, SRNSR 3,060, NSRSR 11,509, NSRNSR 32,268). In the multivariable logistic regression analysis for the good neurological outcome, as compared with all other groups, patients in the SRSR group had significantly higher odds ($p < 0.05$ for all comparisons). Whereas, patients in the NSRNSR group had significantly lower odds ($p < 0.05$ for all comparisons). In the supplemental regression (SRNSR vs NSRSR) we observed improved good neurological outcome in the SRNSR group compared with the NSRSR group (AOR = 1.41 [95% CI 1.02–1.95], $p < 0.01$).

In the multivariable logistic regression analysis for survival to hospital discharge, as compared with all other groups, patients in the SRSR group had significantly higher odds ($p < 0.05$) but no significant difference with the SRNSR group. ($p = 0.10$). Whereas, patients in NSRSR group had significantly lower odds ($p < 0.05$ for all comparisons). In the supplemental regression (SRNSR vs NSRNSR) we observed worsened survival to hospital discharge in the NSRNSR group compared with the SRNSR group (AOR = 0.69 [95% CI 0.57–0.83], $p < 0.01$).

In subgroup analysis for the good neurological outcome (witnessed vs. unwitnessed and elderly vs. non-elderly), initial shockable groups (SRSR and SRNSR) showed a significant increase compared with initial non-shockable groups (NSRSR and NSRNSR) in witnessed, unwitnessed and non-elderly subgroups but there was no significant difference between the four groups in the elderly subgroup.

Conclusion:

The initial shockable rhythm with or without subsequent changing into the non-shockable rhythm in ED could be a much better prognostic marker than other cardiac rhythms for patients suffering from an OHCA without prehospital ROSC. For patients with an initial non-shockable, the conversion to a shockable rhythm in ED could be associated with an improvement in good neurological outcome, but not in survival to the hospital.

#22852 : neurologic toxicity of glufosinate poisoning

Authors:

po yao hsieh (1)

1. CMUH, emergency department, taichung, Taiwan, China

Keywords: glufosinate poisoning

Abstract :

Purpose:

Acute glufosinate poisoning can cause neurological complications and respiratory failure which are usually delayed presented. Early recognition of these toxic signs and identification of who need intensive care are important. Although some studies declaim that ammonia may be a early predictor for severe glufosinate poisoning, there is still no consensus. Our aim is to investigate predictors that could early recognize patients who need intensive care.

Methods

We conducted a retrospective review of 20 consecutive glufosinate-poisoning cases that were diagnosed in the emergency department of China medical university hospital between 2000 and 2019. Patients who need endotracheal tube protection and intensive unit care were defined to intubated group. The others were assigned to non-intubated group. The following characteristics were compared between these two groups: age, sex, calculated amount of glufosinate, time duration from poison ingestion to arrival to our hospital, vital signs, Glasgow Coma Scale, laboratory parameters, and EKG.

Results

The systolic blood pressure, blood pH level, and neutrophil to lymphocyte count ratio (NLR) were significantly different in the intubated group than non-intubated group. The SBP is higher in intubated group (median: 157.5 vs 133.5, $p=0.049$). Blood pH was lower in intubated group (median: 7.29 vs 7.37, $p=0.044$). The AUC-ROC was 0.78 and the optimal cutoff point was 7.32. The NLR was higher in intubated group (median: 17.96 vs 8.79, $p=0.033$). The AUC-ROC was 0.79 and the optimal cutoff point was 15.5.

Discussion and conclusion: The higher SBP, lower blood pH, and higher NLR rather than ammonia at presentation may be useful for predicting the patients who need intensive care.

Trial Registration / Funding Information (only) :

The systolic blood pressure, blood pH level, and neutrophil to lymphocyte count ratio (NLR) were significantly different in the intubated group than non-intubated group. The SBP is higher in intubated group (median: 157.5 vs 133.5, $p=0.049$). Blood pH was lower in intubated group (median: 7.29 vs 7.37, $p=0.044$). The AUC-ROC was 0.78 and the optimal cutoff point was 7.32. The NLR was higher in intubated group (median: 17.96 vs 8.79, $p=0.033$). The AUC-ROC was 0.79 and the optimal cutoff point was 15.5.

#22855 : 30-day mortality of elderly medical patients after short-term acute admissions in Denmark – a nationwide cohort study**Authors:**

Martin Aasbrenn (1), Christian Fynbo Christiansen (2), Buket Öztürk (2), Charlotte Suetta (3), Finn Erland Nielsen (4)

1. , , Copenhagen, Denmark

2. Department of Clinical Epidemiology, Aarhus University Hospital, -, Aarhus, Denmark

3. Copenage - Copenhagen Center for Clinical Age Research, University of Copenhagen, Denmark, -, Copenhagen, Denmark

4. Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark, -, Copenhagen, Denmark

Keywords: readmission, geriatrics, short-term admissions

Abstract :

Background. A growing number of older people with need of acute hospitalizations are expected in the future. Short hospital stays for elderly patients could reduce costs, crowding, and risk of adverse events related to hospitalization. However, mortality of elderly patients after early discharge from hospitals is sparsely described. Therefore, the aim of this study was to examine the 30-day mortality rate among elderly medical patients discharged ≤ 24 hours after admission, and to examine the impact of demographic factors, comorbidity and admission diagnoses on mortality.

Methods. All medical patients ≥ 65 years admitted acutely to Danish hospitals between 1 January 2013 and 30 June 2014 surviving a hospital stay of ≤ 24 hours were included. Data on mortality within 30 days, comorbidity, demographic factors and reasons for admission (discharge diagnoses) were obtained from the Danish National Registry of Patients and the Civil Registration System. We used Cox regression to estimate adjusted hazard ratios (aHRs) with 95% confidence intervals (CI) for mortality. We examined potential predictors of 30-day mortality including age, gender, Charlson Comorbidity Index score (CCI), marital status, and discharge diagnosis.

Results. A total of 93,271 patients (49.5% male) with a median age of 75 years (interquartile range: 69-82 years), were acutely admitted with a medical diagnosis and discharged within 24 hours. A total of 2,749 patients (3.0%; 95% CI 2.8-3.1%) died in the 30-day period following discharge. The age groups (65-75 years as reference) 76-85 years (aHR 1.60; 1.45-1.75) and 86+ years (aHR 3.40; 3.04-3.70), male sex (aHR 1.24; 1.14-1.34), a Charlson Comorbidity Index (0 as reference) of 1-2 (aHR 2.17; 1.94-2.42) and 3+ (aHR 4.11; 3.69-4.59), and unmarried status (aHR 1.17; 1.08-1.28) increased the risk of 30-day mortality. Discharge diagnoses associated with increased risk of 30-day mortality were heart failure (aHR 1.50; 1.16-1.94), respiratory failure (aHR 2.79; 2.13-3.67), dehydration (aHR 2.89; 2.52-3.32), constipation (aHR 1.32; 1.03-1.68), anemia (aHR 1.47; 1.28-1.67), pneumonia (aHR 2.24; 1.93-2.59), urinary tract infection (aHR 1.33; 1.14-1.55), dyspnea (aHR 1.50; 1.25-1.79) and suspicion of malignancy (aHR 2.08; 1.65-2.61). The symptom-diagnoses chest pain (aHR 0.31; 0.22-0.43), headache (aHR 0.20; 0.07-0.64) and vertigo (aHR 0.33; 0.21-0.52) were associated with a reduced risk of 30-day mortality.

Discussion and Conclusions. Three percent of the acutely admitted medical patients aged ≥ 65

years died within 30 days after early discharge. High age, male gender, the comorbidity burden, unmarried status and several primary discharge diagnoses were identified as predictors of 30-day mortality. The results of our study should be considered in future research and planning of the discharge process of elderly patients.

Trial Registration / Funding Information (only) :

The study was approved by the Regional Data Protection Agency in Region Zealand (REG-060-2014). This project received financial support from Region Zealand Health Research Foundation, Naestved, Slagelse and Ringsted Hospitals Research Fund, Bispebjerg and Frederiksberg Hospital Research Fund.

#22856 : Ambulance patients with acute dyspnoea - experience of symptom and situation**Authors:**

Tim Lindskou (1), Stine Ibsen (1), Birgitte Laursen (2), Ulla Weinreich (3), Søren Mikkelsen (4), Erika Christensen (1)

1. Aalborg University, Centre for Prehospital and Emergency Research, none, Aalborg, Denmark
2. Aalborg University Hospital, Clinical Nursing Research Unit, none, Aalborg, Denmark
3. Aalborg University Hospital, Department of Respiratory Diseases, none, Aalborg, Denmark
4. University of Southern Denmark, Department of Regional Health Research, none, Odense, Denmark

Keywords: Dyspnea, Ambulance, Interview, Observation. Emergency Medical Services, Emergency Department

Abstract :**Background**

Acute dyspnoea constitute a serious prehospital problem, as previous study shows it frequently occurs and is associated with a high mortality. Yet few studies have investigated the patient's own experience of acute dyspnoea in the prehospital setting. Our aim was the investigate how ambulance patients with acute dyspnoea experience their situation when calling the emergency number and having a following ambulance run.

Methods

Focused ethnography inspired study in the North Denmark Region, with observations from ambulances based at three different locations and patient interviews from two emergency departments in the region.

The region is mostly rural but include urban areas. A prehospital dyspnoea score (scale 0-10) is implemented in all ambulances in the region.

Included a convenience sample of ambulance runs and ambulance patients with acute dyspnoea.

We chose a focused ethnography inspired approach as it combines observation of patients in the acute situation with interviews when the patient is in a more stable phase. Field notes were used for observations, and semi-structured interviews were used for patient interviews. Data was analysed and interpreted with inspiration from Poul Ricouer. First, it was read and reread naively, to gather an understanding. At the next step, they were analysed and structured according to deduced themes. Finally, the deduced themes were critically interpreted in thematic analysis.

All data was anonymised prior to analysis and NVivo 12.1 PRO (QSR International Pty Ltd, Doncaster, Victoria, Australia) was used.

Results

In total 12 patients were interviewed, and six ambulance runs with dyspnoea patients were observed.

We identified several themes among the acute dyspnoea patients. The severity of acute dyspnoea both in the ambulance and following in the emergency department was immediately evident. As two different patients expressed "People who cannot breathe panic. They always do." and "... I could only concentrate on breathing". The severity was also a prominent theme in the fieldnotes from the ambulance observations, with the observations of the patients' distress.

However, another prominent theme among several patients, was an expressed relief when being met by ambulance personal who they saw as professional in their work. In addition, the patients noted the communication with the ambulance professionals as positive and reassuring.

The patients expressed difficulties assessing their own dyspnoea, when moderate, i.e. whether they had a dyspnoea score of specifically 6 or 7, but otherwise had little problem assessing.

Discussion & Conclusions

We found patients experienced acute dyspnoea as a severe symptom, which correlates with the oft poor outcome for the patients. The patients experience of relief when met by ambulance professionals, relate with a previous study that found ambulance patients desire reassurance and are further reassured by professional behaviour. The patients were well aware of their own situation, and capable of assessing their intensity of acute dyspnoea. The difficulties with smaller nuances of the dyspnoea score, is well known from other scores, e.g. visual analogue scale for pain.

In conclusion our findings emphasise the severity of acute dyspnoea and stresses the importance of professionalism and communication between ambulance professionals and patients.

Trial Registration / Funding Information (only) :

The project was supported by the Danish foundation TrygFonden. The foundation had no influence on the research.

#22857 : Six Cases of Traumatic Tension Hemothorax

Authors:

Ryo Takahashi (1), Kikuta Shota (1), Matsuyama Shigenari (1), Kawase Tetsunori (2), Ishihara Satoshi (2), Nakayama Shinichi (2)

1. Doctor, Hyogo Emergency Medical Center, kobe, Japan
2. Doctor, Hyogo Emergency Medical Center, Kobe, Japan

Keywords: traumatic tension hemothorax, Tension hemothorax, massive hemothorax, surgery

Abstract :

Introduction: One previous report said that there was more tension hemothorax on the left, because the thoracic volume was smaller than the right. However, we sometimes encounter tension hemothorax on the right side. Therefore, we examined our cases diagnosed as traumatic tension hemothorax, especially focusing on the left and right frequencies.

Methods: The patient's background and outcome were analyzed retrospectively in regard to traumatic tension hemothorax treated at our hospital from August 2013 to September 2019. Tension hemothorax was defined that "the mediastinum or diaphragm is shifted to the healthy side due to a large amount of hemothorax in radiological images resulting in dyspnea or lower blood pressure, which can be improved by removing the hematoma" as in the past article. Three emergency physicians peer reviewed cases diagnosed as "tension hemothorax" or "massive hemothorax" in the medical record. Cardiac arrest cases were excluded because chest decompression was not effective in any cases.

Results: All of 2,818 traumatic cases in our institute between this period, 6 cases (0.2%) met the above criteria. Median age was 77 (57-90) years. Five patients were male. Blunt cases were 5 and penetrating was 1. There were 2 cases on the left side and 4 cases on the right. Bleeding sites included: 1 in the intercostal artery, 1 in the diaphragm, 1 in the lung parenchyma, 1 in the vertebral fracture, and 2 unknown. Two cases had taken anticoagulant or antiplatelets medicine. The median chest tube initial output was 1,475 (680-1,800) ml. The median hemoglobin and fibrinogen level on arrival at our hospital was 10.3 (8.1-11.5) g/dl and 274 (51-439) mg/dl. Injury Severity Score (ISS) and Probability of survival (Ps) were 16.5 (9-38) and 0.94 (0.02-0.97), respectively. The median shock index (SI) was 1.1 (0.7-1.9). There were 3 cases of surgery and 1 case of TAE and others were only tube thoracostomy. One case with Ps \leq 0.5 did not survive, but others had good outcomes.

Discussion & Conclusions: Although there was a conventional report that tension hemothorax was more frequent on the left side, traumatic tension hemothorax could be observed on both sides.

Trial Registration / Funding Information (only) :

non clinical work/This study did not receive any specific funding.

#22858 : Timing of antibiotic therapy and outcomes in adult emergency department patients with community acquired pneumonia – A cohort study**Authors:**

Mia Hansen Mandau (1), Søren Flink Sørensen (1), Stig Holm Jensen (1), Ida Katrine Thomsen (1), Hans Kirkegaard (1), Marianne Lisby (1)

1. Research Center for Emergency Medicine, Emergency Department, Aarhus University Hospital and Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

Keywords: Emergency Department, Emergency Medicine, Community Acquired Pneumonia, Initiation of antibiotic therapy

Abstract :**Introduction**

Community acquired pneumonia (CAP) is a leading cause of hospitalization and mortality worldwide. When managing CAP in the emergency department (ED) critical decisions must be made with consideration to timely initiation of antibiotic therapy. International guidelines recommend that the initial dose of antibiotic therapy is administered within 4 hours of arrival. However, this creates a clinical dilemma of striving to follow the 4-hour criteria while being considerate to the emerging antimicrobial resistance. Knowledge on clinically relevant outcomes can help assist the decision-making when in dilemma about initiating antibiotic therapy. This study aims to compare difference in length of stay (LOS), 30-day readmission and 30-day mortality among patients with CAP receiving early versus delayed antibiotic therapy defined as <4 hours and ≥ 4 hours upon arrival to the ED.

Method

This cohort study includes all contacts (≥ 18 years) attending the ED at Aarhus University Hospital in a full year period from 1st of July 2016 to 30th of June 2017. Patients were identified using the final discharge diagnosis (ICD10 codes: J15 and J18) (n=950). Patients with CAP who did not receive antibiotic therapy were excluded (n=565). Data was retrieved from the electronic medical record system used by the Central Denmark Region and vital status from the Danish Civil Registration System. Exposure was time to first dose of antibiotic therapy from arrival to the ED and patients were stratified into two groups: early (<4 hours) and delayed (≥ 4 hours) initiation. Outcomes were total hospital LOS in days and incidence proportions of 30-day readmission and 30-day mortality. A linear regression model was applied to determine differences in LOS and for binary outcomes a logistic regression model was applied to determine odds ratios (OR). The logistic regression models were adjusted for age and triage colour.

Results

Out of 385 patients with CAP 130 received early and 255 delayed antibiotic therapy. The mean age at arrival was 73 years and 51.69% of patients were male. Early initiation had a mean LOS of 5.14 (95%CI 4.10;6.17) days and the delayed 4.69 (95%CI 4.21;5.17) days. 14.17% of patients in the early group and 16.21% in the delayed group were readmitted within 30 days. The 30-day mortality in the early group was 16.15% and 12.97% in the delayed group. The logistic regression model showed a crude OR=0.77 (95%CI 0.42;1.39) on 30-day mortality for the delayed group compared to the early group. After adjusting the OR was 1.33 (95%CI 0.62;2.82). For a readmission within thirty days the crude OR was 1.17 (95%CI 0.64;2.13) and the adjusted OR was 1.39 (95%CI 0.72;2.71).

Conclusion

This study found no clinically relevant difference in LOS, 30-day readmission or 30-day mortality between the early and delayed initiation of antibiotic therapy groups. Although timely administration of antibiotic therapy is important and should be encouraged, initiation of early antibiotic therapy within 4 hours of arrival is not supported by the clinical evidence. This knowledge can help assist the decision-making of initiation of antibiotic therapy.

Trial Registration / Funding Information (only) :

Funding: This study did not receive any specific funding. Ethical approval and informed consent: Not needed.

#22859 : PR interval prolongation and one-year mortality among emergency department patients: a multicentre cohort study**Authors:**

Rune Vad Pedersen (1), Larsen Tobias Malte (2), Annmarie Touborg Lassen (2), Helene Kildegaard Jensen (3), Mikkel Brabrand (4), Jakob Lundager Forberg (5), Ulf Ekelund (6), Anton Pottgård (3)

1. Department of Emergency Medicine, Odense University Hospital, Odense, Denmark, , Odense, Denmark
2. Department of Emergency Medicine, Odense University Hospital, Odense, Denmark, Department of Emergency Medicine, Odense University Hospital, Odense, Denmark, Odense, Denmark
3. Clinical Pharmacology and Pharmacy, Department of Public Health, University of Southern Denmark, Odense, Denmark, Clinical Pharmacology and Pharmacy, Department of Public Health, University of Southern Denmark, Odense, Denmark, Odense, Denmark
4. Department of Emergency Medicine, Hospital of South West Jutland, Esbjerg, Denmark, Department of Emergency Medicine, Hospital of South West Jutland, Esbjerg, Denmark, Esbjerg, Denmark
5. Department of Emergency Medicine, Helsingborg Hospital, Helsingborg, Sweden, Department of Emergency Medicine, Helsingborg Hospital, Helsingborg, Sweden, Helsingborg, Sweden
6. Department of Emergency Medicine, Skåne University Hospital, Lund, Sweden, Department of Emergency Medicine, Skåne University Hospital, Lund, Sweden, Lund, Sweden

Keywords: "PR interval", "PR interval prolongation", "1.degree heart block", "1.degree AV block", "Emergency department", "acutely ill", "one-year mortality"

Abstract :**Objectives**

Emerging evidence supports that PR interval prolongation is associated with increased mortality. However, the potential risk has not been described among acutely ill patients. The aim of this study was to investigate whether one-year all-cause mortality was increased in patients presenting with PR interval prolongation in the emergency department (ED).

Methods

We conducted a register-based cohort study in two Danish EDs. We included all adult patients with an ECG performed at arrival to the ED during March 2013 to June 2014. Using propensity score matching, we obtained the hazard ratio (HR) for one-year all-cause mortality comparing patients with PR interval prolongation (>200ms) and normal PR interval (120-200 ms).

Results

We included 25,541 patients. PR interval prolongation occurred in 7.5% (95% CI: 7.1-7.9); these patients were older and had more co-morbidity than those with a normal PR interval. The absolute risk of death within one year was 15% (95% CI: 13.7 to 16.7) and 11% (95% CI: 10.6 to 11.5) for patients with and without PR interval prolongation, respectively. After propensity score matching, PR interval prolongation showed no association with one-year mortality with a HR of 0.89 (95% CI 0.77 to 1.03).

Conclusion

PR interval prolongation does not constitute an independent risk factor for one-year mortality in ED patients.

Trial Registration / Funding Information (only) :

The study was funded by a grant from Odense University Hospital and from the Swedish heart-Lung Foundation. This study was also part of the AIR Lund (Artificially Intelligent use of Resisters at Lund University) research environment and received funding from the Swedish Research Council (VR; grant no. 2019-00198).

Authors:

Pao-Ling Liu (1), Pei-Hsuan Yang (1), Shu-Mei Gao (2)

1. Department of Nursing, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan, China

2. Department of Nursing, Shin Kong Wu Ho-Su Memorial Hospital. , Taipei, Taiwan, China

Keywords: elderly, emergency, return visits

Abstract :**Background / problem / goal**

The proportion of the elderly population in Taiwan is rapidly increasing. It is estimated that by 2026, the elderly population will exceed 20%, becoming a "super-aged society." The emergency medical resources used by the elderly over 65 years are much higher than those of other age groups. The purpose of this study is to explore the factors related to "unplanned return visits" of elderly emergency patients at a medical center in the south to improve emergency congestion.

Method

Retrospective data analysis was adopted, according to the data of emergency patient registration. (1) Return visits to the emergency department within 24 hours; (2) Return visits to the emergency department of the elderly over 65 years; perform descriptive statistical analysis, and the study period is 2019.05.01 ~ 2019.10 .31

Results

During the study period, 872 people returned to the emergency department within 24 hours, accounting for 1.9% of the total number of emergency departments, and there were 248 elderly people over 65, accounting for 28.4% of all age groups.

The chief complaint reasons for the second visit were different,

28.6%, the condition worsening or complications occurring, 1.6%, the symptoms not improving, 23%, the recurrence of symptoms, 44.8%, patient requested by physician to return, 1.2%, 2 reasons were not entered, 0.8%.

In terms of in-patient department , the hospitalization rate for returning to the emergency department within 24 hours was 47.6%, among which 95.8% was the most in internal medicine, and 4.2% in the other (surgical, trauma, and ophthalmology).

Out-of-hospital order for returning to the emergency department, AAD (Against Advice Discharge), 11.7%, MBD (May Be Discharged), 40.7%, and hospitalization, 47.6%. After discharge from the hospital, the study subjects used only 1.6% of home-based care, and 6.5% of care institutions, 4.4% of elderly care centers, and 2% of nursing homes.

Conclusion

"Unexpected return to the emergency department in the short term" will cause the hospital emergency department quality to decline,

Among them, the majority of people over 65 years old (28.4%).

Analysis of the reasons is that: due to physical deterioration and cognitive decline in the elderly, the elderly have many companion diseases, which leads to patients often seeing emergency doctors. In terms of mental state, Because the elderly are old, living alone and lacking social support, they often have depression. which is also one of the reasons for returning to the clinic..

Nursing staff can communicate with patients and their families during the emergency department to understand their physical, psychological and social support status. When the patient is discharged from the emergency department for the first time, giving good health care instructions may reduce unnecessary return visits.

Regarding the lack of integration of long-term care institutions, if the local community can implement a cross-field cooperative service model by the nurses, combined with physicians, physiotherapists, and social workers, nurses will perform care, disease education, and nursing home visits, call care, resource links and referrals will bring more benefits and implement localized care services.

#22862 : Emergency Nursing Experience in Caring for 5 Elderly Patients with Acute Stroke

Authors:

Pao-Ling Liu (1), Shu-Mei Gao (2)

1. Department of Nursing, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan, China

2. Department of Nursing, Shin Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan, China

Keywords: elderly, acute stroke, nursing care in emergency department

Abstract :**Background / problem / goal**

Cerebrovascular disease is the top ten causes of death in Taiwan. One person dies from a stroke every 45 minutes on average. It often occurs in elderly people over 65 years of age. Two thirds of patients have significant disability. Patients need person to taking care of his daily life has caused a heavy burden on medical care and society. Hope to improve the quality of life of patients through early treatment and rehabilitation.

Method

The acceptance criteria were: within two years: (1) a patient with a stroke; (2) an elderly person over 65 years of age; (3) a NIHSS score of ≤ 4 , who did not meet the IV rt-PA standard or refused to administer rt-PA; (4) ADL score of 61 to 90-moderate dependence; (5) High-risk fall groups.

Use comprehensive geriatric assessment as a research tool, collect data through observation, listening, interviews, and physical, and conduct a comprehensive assessment of physical, psychological, social and spiritual aspects.

Results

NIHSS (National Institute of Health Stroke Scale, NIHSS) for initial assessment and post-acute care; The Barthel Index is used to measure the activities of daily living (ADL); Discharge Preparation Service Form to assist physicians in handling patient discharge issues; The Hendrich II scale was used to assess the high-risk fall groups.

Based on the results of the assessment, the patient's physical, psychological, and

social health issues are listed, and individual care plans are formulated. Of the 5 patients, 4 had hypertension, 3 had hyperlipidemia, 3 had diabetes, and 3 had a history of stroke. Special care must be taken in medication and diet. The health education patient adopts gradual getting out of bed activities, precautions to prevent falls. After 8 to 14 days of hospitalization, in terms of clinical results: the symptoms of all 5 patients gradually improved, and they were discharged smoothly within the expected time without any other complications.

In the use of various medical resources: referrals to physicians and professionals in related division, such as consultations with neurologists, psychiatrists to treat their depression, rehabilitation practitioners to perform passive and active exercise and transfer skills, and dietitians to adjust diet and nutrition , Case managers to assist with home care guidance,

With the support and companionship of the medical team and family members, the stroke symptoms of patients were relieved. Follow up on the phone after discharge to understand the improvement of stroke in patients and care about medication, rehabilitation and diet.

Conclusion

Stroke patients, if handled properly, can return to society and the family. From the prevention and early warning of risk factors before the stroke to the cross-disciplinary medical team's holistic health care at the time of the stroke, to the rehabilitation and tracking after discharge, all are to reduce the possibility of stroke and re-stroke, so that Stroke patients' families receive care and support to help them find appropriate resources, which is also my hope.

#22863 : The role of optic nerve sheath diameter measurements by ocular ultrasonography in predication of raised intracranial pressure and intracranial lesion in children with head trauma

Authors:

Murat Duman (1), Nihan Sik (1), Emel Ulusoy (1), Hale Citlenbik (1), Ali Ozturk (1), Anil Er (1), Durgul Yilmaz (1)

1. Department of Pediatrics, Division of Emergency Medicine, Dokuz Eylul University School of Medicine, İzmir, Turkey

Keywords: children, optic nerve sheath diameter, traumatic brain injury, ultrasound

Abstract :

Introduction: Traumatic brain injury (TBI) is a leading cause of pediatric disability and mortality. Rapidly distinguishing elevated intracranial pressure (ICP) and providing adequate treatment is crucial. Sonographic assessment of the optic nerve sheath diameter (ONSD) has gained popularity to estimate ICP in recent years. Our aim was to determine the accuracy of bedside sonographic measurements of ONSD and ONSD/eyeball diameter ratios to predict intracranial lesion or elevated ICP in children with head trauma.

Methods: We conducted a prospective study between April and November 2018. Previously healthy children who referred to the emergency department with head trauma and underwent cranial computed tomography (CT) were enrolled. Subjects were examined for ocular USG by a single pediatric emergency fellow and the ONSD was measured at 3 mm and 10 mm posterior to the globe in the anterior axial transbulbar view. The eyeball transverse diameter (ETD) (retina to retina) and eyeball vertical diameter (EVD) (the vertical distance between the lens and the globe) were measured. Ratios of ONSD measurement at 3 mm/ETD, 3 mm/EVD and ONSD at 10 mm/ETD and 10 mm/EVD were recorded. All ONSD measurements and rates were calculated on CT images.

Results: There were 147 children enrolled in the study. To predict elevated ICP, the value of the area under the curve (AUC) for ONSD 3 mm was 0.956 (95% confidence interval (CI): 0.896–1). At a cut-off level of 5.1 mm, the sensitivity and specificity of ONSD 3 mm values for elevated ICP were 92.9% and 94.0%. For ONSD 3 mm/EVD rate, the AUC was 0.984 (95% CI: 0.966–1). At a cut-off level of 0.29, the sensitivity and specificity of ONSD 3 mm/EVD rates for elevated ICP were 100% and 88.0%. Patients with intracranial lesion even without elevated ICP findings had significantly higher ONSD measurements and rates. To predict an intracranial lesion, the AUC for ONSD 3 mm was 0.648 (95% CI: 0.525–0.771). At a cut-off level of 4.0 mm, the sensitivity and specificity were 75.0% and 63.0%. For ONSD 3 mm/EVD rate, the AUC was 0.645 (95% CI: 0.531–0.760) and at the cut-off level determined as 0.25, the sensitivity and specificity were 74% and 45%. All sonographic ONSD measurements and rates were significantly correlated with readings calculated on CT images.

Discussion&Conclusion: Sonographic ONSD measurements and rates were quite sensitive to detect elevated ICP and intracranial lesion on CT scans. A significant increase was observed in patients with an intracranial lesion even without elevated ICP, suggesting that the increase in intracranial pressure could be recognized in the early period by using ocular USG without

reflecting on cranial CT images. Of all measurements and rates, ONSD measured at 3 mm and ONSD 3 mm/EVD rate were found to have the highest correlation, stating that ONSD 3 mm/EVD rate could be used to exclude changes with age and individual differences of eyeball and to avoid overlapping of standard deviations of normal and pathologic ONSD values. Bedside ocular USG seems to be a promising and useful tool in the acute management of pediatric TBI.

Authors:

Peyravi Mahmoudreza (1), Ahmadi Marzaleh Milad (1)

1. , shiraz university of medical sciences, Shiraz, Islamic Republic of Iran

Keywords: International law, Humanitarian aids, Complex humanitarian emergency, War, Disaster

Abstract :

Background: Complex Humanitarian Emergencies (CHEs) refer to the conditions that threaten the lives and properties of humans and are caused by weapons, armed hostilities, urban disturbances, and large human populations. These emergencies are related to various factors, such as war, poverty, destruction of human environments, pandemics, and even natural and man-made disasters. The occurrence and intensity of complex human emergencies over the world are on increase. Governments have the primary responsibility to secure the rights of their people in these conditions. However, the international law enters national territories based on the severity and extent of these emergencies and lacks proper response to the host nation's needs and demands. This study aimed to examine the role of international humanitarian law in responding to complex humanitarian emergencies in 2020.

Methods: The study was conducted through the keywords 'war, complex humanitarian emergencies, international law, and humanitarian aid' in Science Direct, Scopus, Web of Knowledge, and PubMed databases during 2010–2020. Several studies were also conducted in Iran.

Results: International humanitarian law encompasses a variety of issues and aspects in complex emergencies, including 1. providing humanitarian aids to all human beings irrespective of their ethnicity, religion, or race, 2. meeting the basic needs of the affected people, 3. observing the rights of minorities, 4. respecting the rights of women and other vulnerable groups, 5. respecting human rights standards provided by the United Nations, 6. reducing sexual violence, 7. determining the impact of sanctions on humanitarian aids in wars and even natural disasters, 8. not permitting to promote Weapons of Mass Destruction (WMDs), 9. Secondary and third-country cooperation laws in refugee resettlement, 10. establishing resettlement camps, 11. assessing the needs and meeting the special needs of special populations rapidly, 12. logistics, infrastructures, and resources, 13. and launching the UN cluster approach as quickly as possible.

Conclusion: International organizations that are accountable for complex emergencies should help without prejudice regarding their race, ethnicity, and religion. The international law protects people affected by emergencies, wars, and conflicts. However, the Red Cross and Red Crescent as an impartial and unprejudiced organization have played an important and influential role in responding to and reducing the suffering caused by these conflicts in the recent years. Resiliency can reduce the severity of the vulnerabilities at the times of emergency.

#22869 : Emergency department registered nurses' perceived disaster preparedness as assessed using Benner's model of clinical competence.

Authors:

Jason Murphy (1), Sophia Magnusson (2), Tove Ringqvist (2), Monica Radestad (3), Lisa Kurland (4), Anders Ruter (5)

1. MSc, Karolinska Institutet, Stockholm, Sweden
2. MSN, Södersjukhuset, Stockholm, Sweden
3. PhD, Karolinska Institutet, Stockholm, Sweden
4. PhD, Orebro University, Orebro, Sweden
5. PhD, Sophiahemmet University, Stockholm, Sweden

Keywords: disaster preparedness, competency, major incident, registered nurse, emergency department

Abstract :**BACKGROUND**

Major incidents (MI) occur with little or no warning. During an MI emergency department (ED) registered nurses (RN) are among the first to receive, assess and treat patients. Emergency department RNs' emergency operating plan (EOP) competencies are crucial in effectively mitigating somatic and psychological afflictions that patients may present to the ED. While previous research has indicated the ED nurses' disaster competencies are low, little is known about the current state of emergency department registered nurses' EOP competencies in Sweden.

AIM

To assess emergency department registered nurses' EOP competencies.

METHOD

Study design: A cross sectional online survey was conducted during a six-week period between January and February 2019. Purposive criterion sampling method was utilized in recruiting participants.

Participants: All registered nurses' (n ≈ 370) employed at six participating emergency departments in the region of Stockholm, Sweden were included.

A total of 100 questionnaires were completed (response rate = 28%). Competencies were rated utilizing a five-point Likert scale based on Benner's competence model of clinical competence.

The primary outcome variables are five competencies concerning ED EOPs. 1. Content of the EOP 2. Areas of responsibilities. 3. Differences between decision making processes in the Incident Command System for a major incident vs. non-emergency situations. 4. Hospital levels of preparedness and its significance. 5. Decontamination procedures according to the EOP. Predictor variables included ED experience, education levels and frequency of training.

Data was analyzed using descriptive statistics generating means, standard deviations, frequency counts, and percentages. Kendall's tau b assessed correlation. A p value of <0.05 was considered significant.

RESULTS

The majority of nurses (77%) had at least 3–5 years of nursing experience. The overall mean of five combined competencies was 2.95 or just below “competent” on Benner's model. The primary outcome variables mean ranged from 2.77– 3.27. (1. “contents of the EOP” (mean 2.77 SD 1.25.), 2: “Areas of responsibilities” (mean 2.8 SD 1,23), 3. “decision making processes in the Incident Command System” (mean 2.88 SD 1.21), 4. “Hospital levels of preparedness and its significance.” (mean 3.27 SD 1.18) and 5. “Decontamination procedures according to the EOP” (mean 3.03 SD 1.29). The strongest positive correlation ($r=0,502$ $p= 0.01$) was between clinical experience and self-assessed levels of competency (range mean 1.2 to 3.80 ,< 1 year and > 20 years respectively).

CONCLUSION

Nurses' overall competency concerning disaster preparedness is slightly lower than “competent” according to Benner's competence estimation model. The majority of nurses disaster experience. Accruing actual MI experience may be elusive due to the rarity of MI. The results of this study however indicate that nurses' disaster competencies may be inadequate. However, despite relatively low levels of competency, these results indicate that ED RNs may increase their disaster medicine competencies through clinical experience, training and education. Due to the relatively small sample size, the results may be generalized in similar settings with caution.

#22870 : Prognosis of the endotracheal intubations in the emergency department: a two-year study of 520 Intubated Patients**Authors:**

Peyman Namdar (1), Ehsan Modirian (1), Ali Sarbazi (2), Shiva Yousefian (3)

1. Emergency Department, Qazvin University of Medical Sciences, Qazvin, Islamic Republic of Iran

2. , Qazvin University of Medical Sciences, Qazvin, Islamic Republic of Iran

3. , Karaj University of Medical Sciences, Karaj, Islamic Republic of Iran

Keywords: Emergency, Intubation, Prognosis, Aged, Diagnosis, Length of being intubated, Mortality

Abstract :

Objective: Increasing the life expectancy and growing of elder population throughout the world leads to more emergency unit visits. Therefore, intubation of critically ill patients is one of the increasing procedures with few sufficient information about patient prognosis after it. In this study we evaluate the prognosis of intubated patient according to their demographic and clinical characteristics.

Methods: This retrospective study is done in a referral hospital from years 2017 to 2019. The data of the intubated patients according to their characteristics of sex, age, length of being intubated, primary and final diagnosis were collected and analyzed. P value less than 0.05 was significant.

Results: Data of 520 non-traumatic intubated patients were collected and analyzed. More than 64% of the patients were old (>65 y/o) and had higher mortality rate (86.7%; P value<0.001). The overall in-hospital mortality rate was 80%. More than three quarter of the decedents expired within a week of intubation (P value<0.001). There was no significant relationship between sex and mortality status (P value=0.535). Also, there was a significant relationship between final diagnosis and mortality rate. Internal and neurological disease were two group of diagnosis with high in-hospital mortality rate (P value<0.001).

Conclusion: Older patients with internal or neurological disease who were going under intubation have particularly high in-hospital mortality rates.

Trial Registration / Funding Information (only) :

Ethics Committee approval ID: IR.QUMS.REC.1398.126.

#22871 : Medication reconciliation quality program in the emergency department observation ward. A retrospective study of preventable medication errors**Authors:**

Paul GAYOL (1), Paul-Emile SCHENK (1), Martin BEHR (1), Dominique PAYA (2), Bénédicte GOURIEUX (2), Ruxandra COJOCARU (1), Manana POTOCHNIK (1), Pascal BILBAULT (1)

1. Emergency Department, Strasbourg University Hospital NHC (Nouvel Hôpital Civil), Strasbourg, France
2. Pharmacy Department, Strasbourg University Hospital NHC (Nouvel Hôpital Civil), Strasbourg, France

Keywords: medication reconciliation, medication errors, emergency department observation ward

Abstract :

Medication reconciliation (MR) is a medication error-prevention strategy that consists in the achievement of a reliable and complete list of all medications taken by the patient for the time period immediately prior to emergency department (ED) admission. And this is compared (MR) to the ED acute treatment to identify and correct discrepancies. Thanks to a multi-professional coordination (physicians-pharmacists), it promotes the transmission of complete and accurate information on the patient's treatment at hospital transition points as the ED admission, transfers to different services or hospital discharge from the ED. The MR ensures consistency between family doctor drug prescriptions and those of the ED, in order to avoid the occurrence of serious adverse drug reactions. The study objectives were (1) to analyze MR results, and (2) to evaluate the usefulness of a harmonization sheet (HS) created to help the decision-making of the various stakeholders (5th year pharmacy students trained beforehand) to detect and classify medication discrepancies found during the MR completion. Method: Observational retrospective study of all MR performed between December 2013 and August 2017 concerning 7342 patients admitted to the ED short stay observation ward (SSOW). The HS use was systematically implemented from September 2014, allowing us to compare both periods (before and after HS). Inclusion criteria were elderly patients (≥ 65 years of age) and < 65 years old polymedicated (defined as use of two or more drugs) patients. Type 1 (chronic treatment intentionally not prescribed or discontinued at ED admission, but the reason why was not reported in the medical record), and Type 2 (chronic treatment prescribing errors or unintentional omissions) discrepancies were methodologically analyzed. Results: We observed a total of 11 571 discrepancies, including 3 005 (26%) of type 1 and 8 565 (74%) of type 2. Thirty-six percent of type 1 discrepancies concerned cardiologic drugs class, and furosemide, bisoprolol, amlodipine, and ramipril were part of the top-ten. Once again, 31% of type 2 discrepancies concerned cardiologic drugs class, and furosemide, bisoprolol, ramipril and aspirin also were part of the top-ten. We found a significant decrease (of 20%) of type 1 discrepancies concerning most prescribed drug classes after HS use. Regarding type 2 discrepancies, we did not find any significant changes after HS use. Nevertheless, the HS use permitted to detect the omission of drugs wrongly considered minors, but essentials for patients (anti-glaucoma eye drops, L-thyroxine). Conclusion: We noticed a significant reduction of type 1 discrepancies after HS use, and 74% were of type 2 discrepancies (medication errors or omissions) especially for cardiologic drugs. Our study has shown the value of using a HS for a decision-making homogenization prior to the MR discrepancies classification. This represents a methodological improvement in the education field for pharmacy student's MR current practice in the SSOW of the

ED.

#22876 : Comparing Pulmonary Ultrasound Findings When Viewing Lung Pleura Beneath Costal Cartilage Compared to Costal Bones**Authors:**

Patrick Kishi MD (1), Michael Cirone MD (1), Nicole Glowacki MPH (1), Michael Lambert MD (1), Katharine Burns MD (1)

1. , Department of Emergency Medicine, Oak Lawn, USA

Keywords: Ultrasound, Point of Care Ultrasound, POCUS, lung sliding, pulmonary ultrasound

Abstract :

Background: Pulmonary ultrasound is one modality to quickly diagnose pneumothoraces and other lung pathologies in critically ill patients. Studies have demonstrated pulmonary ultrasound to be superior to chest radiographs in diagnosing pneumothoraces. Unfortunately, the bones of the chest wall often produce shadowing that can make it difficult to visualize the lung pleura. We aim to compare the ease of identifying lung sliding when viewing the pleura beneath rib cartilage located closer to the sternum versus rib bone more laterally.

Methods: Five volunteers acted as ultrasound models for scans performed by a single ultrasound credentialed emergency medicine physician using a Sonosite X-Porte L25xp linear transducer. For each model, bilateral lung ultrasounds were performed adjacent to the sternum over rib cartilage and at the same rib laterally over rib bone. The transducer was placed in 3 locations at each rib level: directly over the rib, partially over the rib, and between ribs. Forty-five participants were enrolled into this descriptive study to report their level of confidence in identifying clear lung sliding in the recorded scans. A five-point scale was used with 1 signifying "not at all clear" and 5 being "very clear". The Wilcoxon Signed Rank Test was used for statistical calculations.

Results: Overall, the composite scores of lung sliding clarity were greater for images performed medially over costal cartilage compared to laterally over bone (3.5 vs 3.3, $p=0.02$). When stratified by the location of cartilage or bone within the image, lung sliding demonstrated greater clarity when viewed directly over cartilage versus bone (3.0 vs. 2.4, $p<0.01$) or partially over cartilage versus bone, (3.4 vs 3.1, $p<0.01$). No statistical difference was found when viewing images of lung sliding between cartilage versus bone (3.7 vs 3.7, $p=0.26$).

Conclusion: Assessing lung sliding using pulmonary ultrasound demonstrated greater clarity when performed near the sternum over the rib cartilage versus placing the probe laterally over rib bone. This study suggests that Emergency Medicine clinicians should consider performing ultrasounds over rib cartilage when evaluating lung pathology.

#22878 : Risk factors for invasive bacterial infection in pediatric oncology patients with fever**Authors:**

Borja Gomez (1), Amaya Fernandez (2), Idoia Rius (2), Ricardo López (3), Javier Benito (1), Santiago Mintegi (1)

1. Pediatric Emergency Department, Cruces University Hospital, Barakaldo, Spain
2. Department of Pediatrics, Cruces University Hospital, Barakaldo, Spain
3. Department of Pediatrics. Pediatric Hemato-Oncology Unit, Cruces University Hospital, Barakaldo, Spain

Keywords: invasive bacterial infection, chemotherapy induced neutropenia, biomarkers, oncology

Abstract :

Background: Fever in oncology patients receiving chemotherapy is a true emergency because of their high risk of presenting and invasive bacterial infection (IBI). New approaches have been developed in order to predict this risk and to allow a more individualized management.

Objective: To identify clinical and analytical factors associated to a higher risk of having an IBI in febrile oncology patients attended in the Pediatric Emergency Department (PED).

Design/Methods: Prospective observational study of the oncology patients receiving chemotherapy who attended the PED of a tertiary teaching hospital between January 2016 and June 2019. We defined IBI as the growth of:

- a bacterial pathogen in blood, cerebrospinal fluid or any other sterile fluid
- a bacterium commonly considered contaminant in two blood cultures obtained simultaneously from a peripheral vein and a central venous catheter, usually port-a-cath (catheter-related bloodstream infection: CRBSI)

We performed a multivariate analysis to identify risk factors for IBI including general appearance, age, type of cancer (three groups according to the cancer and the phase of chemotherapy), fever degree, absolute neutrophil and monocyte counts and C-reactive protein (CRP) and procalcitonin values.

Results: Among 251 episodes (104 patients), 37 IBIs were diagnosed (prevalence 14.7%): 22 CRBSI, 9 sepsis/septic shocks, 5 bacteremias and 1 bacterial meningitis. The causing bacterium was a usually non-pathogenic one in 22 IBIs (59.4%; *S. epidermidis*, 18).

We identified three independent risk factors for IBI: high-risk hematologic malignancies (acute lymphoblastic leukemia in induction/reinduction phase or relapsed, non-Hodgkin lymphoma in induction/reinduction phase, acute myeloid leukemia), age (12 years) and CRP>90 mg/dL. These factors identified 35 of the 37 IBIs (sensitivity: 94.6% [82.3-98.5%]). The prevalence of IBI among the 83 episodes (33.0%) with none of these three factors was 2.4%. The predictive model had an area under the ROC curve of 0.752 (0.674-0.830).

The kind of cancer was the most important IBI predictor. The IBI prevalence was 24.3% among patients with high-risk hematologic malignancies, 10.1% among those with solid tumors and 4.6% among those with the rest of hematologic malignancies.

Conclusion(s): The type of cancer, the age and the CRP value predict the risk of IBI among oncology patients receiving chemotherapy attended with fever. These three factors can guide initial clinical decision-making.

#22879 : Ultrasound education:echo model

Authors:

Lydia Brooke (1), Mohit Arora (2)

1. , Leeds Teaching Hospitals Trust, Wakefield, United Kingdom
2. Emergency Medicine, Leeds Teaching Hospitals Trust, Leeds, United Kingdom

Keywords: ultrasound, education, echocardiogram, echo, model, teaching, POCUS,

Other

Patient images are involved and I have adequate permission to use them

Abstract :

Teaching the basics of echocardiography, as is required for emergency medicine sign off, is notoriously difficult due to the orientation of the probe and understanding the different angles of the heart being visualised.

We have designed a cheap and easy to replicate model of the heart using a standard urine bottle. The slices through the bottle can then be used to replicate and simplify the views of the heart seen on echocardiography.

This model has simplified the way in which we can teach echocardiography, for both the teacher and the learner. Orientation and position of the probe is no longer confusing, and the ultrasound images acquired can immediately be compared with and linked to real anatomy.

We would like to share with you how this model can be easily made in 10 minutes, and reused multiple times thereafter.

Attachment: image in emergency medicine.docx

#22880 : The effect of hyperoxia on cardiac output in patients undergoing procedural sedation in the emergency department: a single centre prospective observational study**Authors:**

Renate Stolmeijer (1), Ellen Van Ieperen (2), Heleen Lameijer (2), Paul van Beest (3), Jan ter Maaten (4), Ewoud ter Avest (5)

1. ED, UMCG, Groningen, The Netherlands
2. ED, MCL, Leeuwarden, The Netherlands
3. Anesthesiology, MCL, Leeuwarden, The Netherlands
4. internal medicine, UMCG, Groningen, The Netherlands
5. ED, UMCG; Kent, Surrey and Sussex Air Ambulance Trust, Groningen, The Netherlands

Keywords: hyperoxia, cardiac output, cardiac index, procedural sedation and analgesia, emergency department

Abstract :**Background:**

Patients requiring procedural sedation and analgesia (PSA) in the Emergency Department (ED) are often pre-oxygenated with high flow oxygen via a non-rebreathing mask (NRBM). Previous studies have shown that (prolonged) hyperoxia may have negative haemodynamic effects. Therefore, in this study we aimed to investigate the effect of pre-oxygenation for PSA on non-invasively measured cardiac output (CO), cardiac index (CI), stroke volume (SV) and systemic vascular resistance (SVR).

Methods:

In a prospective cohort study, CO, CI, SV and SVR were measured non-invasively in a convenience sample of patients who were pre-oxygenated for PSA in the ED of a large teaching hospital in the Netherlands between May 2018 and June 2019 using the ClearSight® system. After baseline measurements were performed, oxygen was administered at rates of 15L/min and at flush rate during a total of 10 minutes, after which measurements were repeated. The primary outcome was the absolute difference in CO after respectively 15L O₂/min and flush rate preoxygenation for PSA compared to baseline measurements. Repeated measures ANOVA or Friedmann test was used for analysis. Secondary outcomes were differences in CI, SV, SVR, systolic blood pressure (SBP), heart rate and saturation, and differences in baseline characteristics between patients with and without a decrease of >10% of CO after preoxygenation, for which Student's t-test, Mann-Whitney U test, Chi-square test or Fisher's exact test were used. Mixed ANOVA was used to calculate oxygen dose-to-group interactions for these groups.

Results:

60 patients were included. Mean CO was 6.5 L/min at baseline, after 5 minutes of 15L O₂/min 6.3 L/min and after 5 minutes of flush rate oxygen 6.2 L/min, which was significantly different ($p=0.037$). SVR and SBP also increased significantly during preoxygenation (781, 1244, 1337 dyn/sec/cm⁵ respectively, $p < 0.001$; 133, 138, 144 mmHg respectively, $p < 0.001$). A clinically relevant decrease in CO, pre-specified as >10%, was present in 16/60 (27%) patients. Baseline characteristics did not differ in these patients.

Discussion and Conclusions:

In this study we found a significant decrease in CO of 0.3 L/min after pre-oxygenation. Short duration high-flow oxygen administration resulted in a clinically relevant drop in CO in 27% of the patients undergoing pre-oxygenation for PSA in the ED. SBP and SVR increased significantly. These effects could be attributed to negative effects of hyperoxia, since this can lead to peripheral and coronary vasoconstriction. Baseline characteristics and haemodynamic measurements could not predict which patients would demonstrate a significant drop in CO. Limitations: the effects of hyperoxia might be most harmful in patients with known heart failure or who are critically ill or haemodynamically instable. There were no patients with known heart failure or critical illness in this cohort, although they suffered a painful condition. Despite administering high flow oxygen, we did not measure PaO₂ to prove true hyperoxemia. Saturation increased to 100% in all patients, which previous studies have shown to correspond with hyperoxemia. Conclusion: Short duration high-flow oxygen administration resulted in a clinically relevant drop in CO in 27% of the patients undergoing pre-oxygenation for PSA in the ED.

Trial Registration / Funding Information (only) :

Trial registration: The study was registered at ClinicalTrials.gov; registry number NCT03930979 Funding: Purchase of the ClearSight finger cuffs was funded by the MCL science fund. The ClearSight system was made available by Edward Lifesciences. Ethical approval: ethical approval was sought and obtained from the ethical committee of the RTPO Leeuwarden (protocol number nWMO270). Informed consent was obtained.

#22881 : Healthcare economic burden of atrial fibrillation patients treated with oral factor Xa inhibitors and hospitalized with a major bleed in the United States**Authors:**

Gregory J Fermann (1), Belinda Lovelace (2), Mary J Christoph (2), Melissa Lingohr-Smith (3), Jay Lin (3), Steven B Deitelzweig (4)

1. Department of Emergency Medicine, University of Cincinnati, Cincinnati, OH, USA

2. , Portola Pharmaceuticals, South San Francisco, CA, USA

3. , Novosys Health, Green Brook, NJ, USA

4. Department of Medicine, University of Queensland, Australia and Ochsner Clinical School, New Orleans. LA, USA

Keywords: oral factor Xa inhibitors, atrial fibrillation, major bleed, healthcare costs

Abstract :

Background: Oral factor Xa inhibitors (oFXals) are used as anticoagulation therapy to reduce stroke risk for patients with atrial fibrillation (AF). However, as anticoagulants, these medications are associated with risk of major bleeds.

Purpose: To examine the healthcare burden of AF patients treated with oFXals who were hospitalized in the U.S. with a major bleed (MB) with a breakdown by MB type.

Methods: Patients (≥ 18 years) treated with oFXals (rivaroxaban, apixaban, or edoxaban) who had an inpatient hospitalization with MB (January 1, 2015-April 30, 2018) were extracted from the MarketScan claims databases. The index date was defined as the first MB inpatient hospitalization. Patients were grouped into 3 study cohorts based on the type of MB: gastrointestinal (GI), intracranial hemorrhage (ICH), and other MB type. Healthcare resource utilization and costs were evaluated for index MB hospitalizations and during the 6-month period prior to the index event and a variable follow-up period of 1-12 months for the study cohorts. Multivariable regression analyses were conducted to examine the impact of having ICH or other MB type vs. GI MB on index event hospital length of stay and cost, as well as all-cause healthcare costs in the follow-up. The covariates in the regression analyses included age, gender, U.S. geographic region, payer type, Charlson Comorbidity Index score, CHA2DS2-VASc score, HAS-BLED score, key comorbidities, oFXal type, and AF type. Costs were inflated to 2019 USD and annualized.

Results: Among AF patients treated with oFXals who had an MB hospitalization (N=7,577), 55.9% had GI MB (N=4,236; mean age: 76.8 years; 48% female), 9.9% had ICH (N=753; mean age: 77.9 years; 42% female), and 34.2% had other types of MB (N=2,588; mean age: 74.4 years; 39% female). For index GI MB, ICH, and other MB hospitalizations, unadjusted mean lengths of stay were 5.0, 6.8, and 5.5 days, respectively; mean costs were \$26,901, \$54,163, and \$36,645, respectively. From the adjusted analyses, for index hospitalizations, patients with ICH vs. those with GI MB spent on average 1.6 more days in the hospital ($p < 0.001$) and had an average of \$15,630 higher hospitalization cost ($p < 0.001$); patients with other types of MB vs. those with GI MB spent on average 0.6 more days in the hospital ($p = 0.001$) and had an average of \$5,859 higher hospitalization costs ($p < 0.001$). During the follow-up period, compared to patients with GI MB, inpatient costs per patient were an additional \$9,376 ($p = 0.019$) for ICH and \$1,738 ($p = 0.350$) for other MB types, outpatient medical costs were an additional \$4,734 ($p = 0.008$) for ICH and \$3,089 ($p = 0.003$) for other MB types, and outpatient pharmacy costs were an additional \$14,037 ($p < 0.001$) for ICH and \$5,208 ($p = 0.011$) for other MB types.

Conclusions: Among 7,577 AF patients treated with oFXals and hospitalized for MB in the U.S., GI MB was most prevalent. All 3 MB categories were associated with high hospitalization costs; however, in comparison to GI MB, other types of MB and particularly ICH had higher average costs for index events and all-cause total healthcare costs during the follow-up period following MB hospitalization.

#22884 : Comparison of the early sepsis indicator, monocyte distribution width to procalcitonin and c-reactive protein in detection of sepsis-2 or sepsis-3 in the emergency department**Authors:**

Marta Cancellà de Abreu (1), Julie Pernet (1), Neus Robert (2), Cristian Morales (3), Pere Tudela (2), Laetitia Velly (1), Gemma Rocamora (2), Adrià Mendoza (2), Iris Castro (4), Diana Careaga (5), Mohamad Hasan (6), Liliana Tejedor (7), Hausfater Pierre (1)

1. Emergency Medicine Doctor, Hospitalier La Pitié Salpêtrière, Paris, France
2. Emergency Medicine Doctor, Hospital Universitari Germans Triás i Pujol, Badalona, Spain
3. Coordinator – Hematology Core, Hospital Universitari Germans Triás i Pujol, Badalona, Spain
4. Senior Scientist Clinical Affairs, Beckman Coulter, Miami, USA
5. Senior Staff Clinical Affairs, Beckman Coulter, Miami, USA
6. Senior Biostatistician, Beckman Coulter, Miami, USA
7. Director Clinical Affairs, Beckman Coulter, Miami, USA

Keywords: biomarker, monocyte, sepsis, procalcitonin, c-reactive protein, white blood count, quick sequential organ failure assessment, systemic inflammatory response syndrome

Abstract :

Background: The variation in the size distribution of monocytes, referred to as Monocyte Distribution Width (MDW), is a new biomarker that aids in the early detection of sepsis and is available on a routine blood cell count with differential (CBC-DIFF). MDW's performance in the Emergency Department (ED) has already been reported in two North American studies. The objective of this study was to evaluate MDW in a European population and compare MDW to PCT, CRP. We also sought to determine if MDW, when combined with clinical parameters such as SIRS or qSOFA improves the early detection of sepsis in the ED.

Methods: An IRB-approved observational cohort study, funded by Beckman Coulter, was carried out in France and Spain between August 2018-June 2019 to assess MDW's ability to detect the development of sepsis in consecutive adult patients presenting to the ED who have a CBC-DIFF ordered. Whole blood venous samples collected in K3EDTA were tested on the Beckman Coulter UniCel DxH900 hematology analyzer. Each patient had blood drawn concurrently for MDW, PCT and CRP. Demographic data, SIRS, qSOFA, SOFA, imaging, microbiological testing and treatments were collected and patients followed up through 72-hours after ED admission or discharge. The study endpoint was the diagnosis of sepsis-2 or sepsis-3 determined by 2 independent emergency physicians, blinded to MDW results. Discordant cases were arbitrated by a third physician.

Results: 1517 patients were enrolled (837 men and 680 women, average age 61 ± 18 years) sepsis was diagnosed in 260 (17%), 197 SIRS, 241 infections and 819 controls according to sepsis-2 criteria. The areas under the ROC curve (AUC) and [95% confidence interval] for the diagnosis of sepsis-2 were 0.81 [0.78-0.84], 0.78 [0.75-0.81], 0.85 [0.83-0.87] and 0.86 [0.84-0.89] for MDW, PCT, CRP, and MDW combined with white blood cell count (WBC), respectively. For sepsis-3 the biomarker performance was 0.82 [0.79-0.85], 0.84 [0.81-0.87], and 0.85 [0.82-0.87] for MDW, PCT, CRP, respectively. The statistical cut-off for MDW was 21.5 for K3EDTA. Inclusion of MDW with SIRS or qSOFA during the initial evaluation in the ED enhanced the odds of sepsis detection by 7- fold for sepsis-2 and 8- fold for sepsis-3.

Discussion: This large European study confirms the clinical performance of MDW coupled with leukocytes as an early biomarker of sepsis in the emergency room. MDW's performance is comparable to that of PCT and CRP but superior to both biomarkers when combined with WBC. MDW +WBC are readily available on a routine CBC-DIFF, unlike PCT and CRP that are ordered only if the physician has a high index of clinical suspicion of sepsis. MDW +WBC has the advantage of being one of the first parameters tested at the time of ED admission, and when elevated may alert for potential sepsis even in situations of low clinical probability.

Conclusion: This study confirms the potential clinical utility of MDW as an early indicator of sepsis in the emergency room. Combined with components of SIRS and qSOFA, MDW significantly improves the post-test probability of detecting sepsis among ED patients.

Trial Registration / Funding Information (only) :

Trial Registry: ClinicalTrials.gov (NCT03588325) Funding for this study was provided by Beckman Coulter, Inc

#22885 : Infants in emergency department - make their care delivery safer

Authors:

Chamika Mapatuna (1), Caitlin McGreevy (1), Giulia Giovannetti (1), Lydia Bevis (1)

1. Emergency Department, Calderdale & Huddersfield NHS Foundation Trust, Huddersfield, United Kingdom

Keywords: infants, risk, safe, care

Abstract :

Problem:

Infants presenting to Emergency Department (ED) are a recognised high-risk group. There are subgroups that are particularly at a higher risk; eg infants with fever and non-mobile infants with injuries. Recognising this, Calderdale & Huddersfield NHS Foundation Trust (CHFT) ED Consultant body agreed that all infants presenting to ED should be discussed with or reviewed by a senior (ED Registrar, ED Consultant, Paediatric Registrar or Consultant). We found that a significant number of infants were not offered this important senior input.

Assessment of problem and analysis of its causes:

All case notes (1373) of infants presenting to CHFT EDs in the year from Sept 2015 to Aug 2016 were audited. In this 12-month period, 21% of infants were only seen by a junior doctor, with no documented senior input. Significantly, 25% of infants who were known to social services (SS) did not have any documented senior input. Through a staff survey, it was recognised that ED staff awareness about this high-risk group should be improved. Furthermore, that this important information should be spread in multiple ways, repeated frequently & made easily accessible for quick reference to embed into practice.

Strategy for change:

Findings were presented at departmental Quality Improvement Forum & disseminated via a memo. Infants were excluded from triaging into minor injuries unit. A discussion on Infants as a high-risk group was included into ED induction & four monthly rolling weekly teaching programme. To reiterate the importance, 10 criteria were introduced to help recognise higher-risk infants such as infants known to SS, non-mobile infants with injuries, all neonates, infants with fever, infants with an early warning score >4 etc. This information was added on to our departmental guideline website, which is at easy access. A reminder note was added on to daily safety-huddle, which would be gone through thrice a day, for two consecutive weeks after each new doctors' rotation to ensure this is embedded into practice. The practice is audited annually as an audit-spiral identifying further measures to enhance the practice.

Measurement of improvement:

Case notes of randomly selected 100 infants who attended CHFT EDs during a six-month period in 2017-18 and in 2018-19 were analysed. We also looked to see whether these children were fulfilling any of the 10 high-risk criteria.

Effects of changes:

In 2017-18, only 9% of infants who were seen by junior doctors did not have evidence of senior review. In 2018-19, this dropped further to 6%. Importantly, none of the infants known to social services were discharged without senior involvement in both years. Additionally, only 1% of infants, who fulfilled any of the 10 criteria, were discharged without senior involvement. This ensures that this high-risk group is now getting senior input, resulting in safer decision-making.

Lessons learnt:

We learned the importance of repetition of an important message in different formats, at different times & at different levels to embed a safer practice due to the nature of frequent staff changes in EDs and challenging nature of changing some peoples' attitudes/ behaviours.

Trial Registration / Funding Information (only) :

Not applicable

#22886 : The diagnostic performance of frailty screening tools validated for the Emergency Department and their feasibility and acceptability among health-care professionals**Authors:**

Nicky Wijnen (1), Rosalien van der Burgh (2), Mareije Visscher (3), Simon Mooijaart (4), Kees Kalisvaart (5), Amy Elliot (6), Bas de Groot (1), Jacinta Lucke (3)

1. Department of Emergency Medicine, Leiden University Medical Center, Leiden, The Netherlands
2. Emergency department, Spaarne Gasthuis, Haarlem, The Netherlands
3. Department of Emergency Medicine, Spaarne Gasthuis, Haarlem, The Netherlands
4. Department of Internal Medicine - section of geriatrics, Leiden University Medical Center, Leiden, The Netherlands
5. Department of Geriatrics, Spaarne Gasthuis, Haarlem, The Netherlands
6. Department of Health Sciences, University of Leicester, Leicester, United Kingdom

Keywords: Geriatrics, frailty screener, nurses, feasibility, geriatric emergency medicine, ED, emergency department

Abstract :

Introduction

Diagnostic performance of many frailty screeners have been validated for the emergency department

(ED) but successful implementation in routine practice also depends on the additional value over

clinical judgment, and the experienced quality and usability by healthcare professionals. Our aim was

to assess the diagnostic performance of frailty screeners and compare it with clinical judgment. Also, we

assessed the experienced quality and usability of four screening tools among healthcare

professionals.

Methods

This was a prospective multi-center study in which healthcare professionals of two Dutch EDs were included. Included healthcare professionals assessed whether a hypothetical older patient presented in a clinical scenario was frail by applying their clinical judgment and two randomly selected screening tools (PRISMA-7, Identification-Seniors-At-Risk-score (ISAR), Clinical Frailty Scale (CFS) or APOP-screener (Acutely Presenting Older Patient, APOP). Diagnostic performance was assessed by using the opinion of an expert panel as gold standard. Time needed to complete the tool was measured and a questionnaire was taken about experienced quality and usability of the tool.

Results

We included 125 emergency healthcare professionals who performed 250 screeners. Clinical judgment had the highest sensitivity (93.5% (95%CI: 88.2-96.6%)) but the lowest specificity (51.0 (95%CI 41.5-60.4%)). APOP had the highest specificity (92.0 (95%CI 75.0-97.8%)) but lowest sensitivity (47.2 (95%CI 32.0-63.0%)). The combination of clinical judgment and the APOP-screener resulted in a sensitivity of 91.7 % (95%CI 78.2-97.1%) and specificity of 56.0% (95%CI 37.1-73.3%). Time to complete screening was ~1 min, not different among screeners ($p>0.05$), as was the experienced quality and ease of use ($p>0.05$).

Conclusions

Our study suggests that frailty can most accurately be assessed in the ED by combining clinical judgment with a validated frailty screening tool. EDs should choose a screening tool based on institutional preferences because of similar time to complete different screeners, experienced quality and usability of the tools.

Trial Registration / Funding Information (only) :

Trial registration did not apply since no patients were involved in this study. All authors declare that no external funding was received for this study. NB: Authors N Wijnen and R van der Burgh contributed equally to this research, we will name them both first authors. If accepted they both will be presenting, (if possible)

#22887 : Covid-19 and medical dispatch: how to amp up crisis answering capacities through the employ of health students?

Authors:

Benoit Viault (1), Julie Oudet (1), Pierre Roucolle (1), Pierre Flores (1), Garat Émile (1), Vincent Bounes (1)

1. SAMU 31 / Emergency departments, Toulouse University Hospital, Toulouse, France

Keywords: Covid-19, dispatch centre, disaster management, pre-hospital medicine, training, health students

Abstract :

The Covid-19 pandemic spread in a rapid and ill-timed manner, at the peak of the winter flu epidemic, when pre-hospital services and emergency wards are at their most hard-pressed.

French Emergency Medical Services are run by local medically-staffed call centres, the SAMU. These call centres provide medical response from simple advice to resuscitation teams and organise the transfer of patients to hospitals and units as needed (cath-lab, emergency departments, ICUs...).

The emergence of the first cases of Covid-19 in the South of France led to a massive influx of pandemic-related phone calls to the medical dispatch centre of SAMU 31 in Toulouse, swamping the phone lines to near saturation point in the space of 24 hours. A swift solution was found in a few hours through the voluntary mobilisation of over 1300 health students to help in the dispatch centre, together with the recruitment of non-emergency medical staff in a later phase.

The use of this at first inexperienced workforce was nonetheless facilitated by a rapid course of thorough theoretical and practical training, and the use of strict procedures, providing sufficient failsafes and backups to prevent medical errors and critical misses. To treat CV-related calls, we established a stratified system based on 5 levels of expertise (pick up, unskilled answer, medical answer, medical expert answer, dispatch expertise), which helped us to continue our normal duties while being able to respond to the crisis.

From this situation we learned the principles needed to design a quick, efficient and adaptable contingency system. Particular emphasis must be laid on the follow-up and protection of the volunteers, and their essential linking and information from the regular teams. Those inexperienced helpers must be limited to the strict management of the crisis, according to simple algorithms. They must never be left in a decision-making position undefined by those. The system framework must be robust enough to deal with the outbreak yet flexible enough to evolve with the flow of the crisis.

As this structure allowed us to treat calls related to Covid-19 and also to continue to manage our normal daily workload, reducing delays in answering calls, we have shared this system and our training materials with every French medical call centre which has requested it, for immediate use or adaptation by local organisations.

#22890 : Optic Nerve Sheath Diameter Changes at High Altitude and in Acute Mountain Sickness: Meta-regression Analyses**Authors:**

Tou-Yuan Tsai (1), Su Yung-Cheng (2), Kar Mun Cheong (2), Tu Yu-Kang (3)

1. Emergency Department, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan, Chiayi County, Taiwan, China
2. Emergency Department, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan, Chiayi, Taiwan, China
3. Department of Public Health, Institute of Epidemiology and Preventive Medicine,, College of Public Health, National Taiwan University, Taipei, Taiwan, Taipei, Taiwan, China

Keywords: ultrasound, high altitude sickness, optic nerve sheath diameter

Abstract :

Background: Recent reviews have discussed pathophysiological changes in the central nervous system after exposure to high altitude, but none have systematically discussed the clinical significance of an increased optic nerve sheath diameter (ONSD), and it remains unclear whether ONSD changes are correlated with altitude or whether acute mountain sickness (AMS) directly affects the ONSD. Therefore, we performed a systematic review and meta-regression analyses to assess ONSD changes in high altitude in subjects with and without AMS.

Methods: Cochrane Library, EMBASE, Google Scholar, and PubMed were searched for articles published until October 18th, 2019. The definitions applied were high altitude: > 2500 m; AMS: Lake Louise Score (LLS) \geq 3 with headache or AMS-C score \geq 0.7. Outcome measures were comparison of the means of ONSD between sea level and high altitude, and between subjects with or without AMS. Meta-regressions of ONSD change were conducted for correlation with altitude and time spent at that altitude. Restricted cubic spline regression was used to evaluate non-linear trends. PROSPERO registration number is CRD42018110917.

Results: Seven studies with 228 participants comparing ONSD from sea level to high altitude, and five studies with 463 participants comparing subjects with or without AMS, were included. ONSD was found to increase by 0.15 mm per 1000 m after adjustment for time (95% Confidence Interval: 0.11 to 0.18; $p < 0.01$). Restricted cubic spline regression revealed an almost linear association between ONSD change and time within 2 days. ONSD was larger in subjects with AMS (mean difference = 0.47; 95% CI: 0.14 to 0.81; $p = 0.01$).

Discussion & Conclusions: Our analyses show ONSD changes are correlated with altitude. The currently available data suggest that although ONSD change may tend towards increase in subjects with AMS, but there are not enough data to show the statistically significant effect. Small study numbers indicated substantial bias and warrant more studies.

#22891 : Does Ultrasound-guided Femoral Nerve Block Decrease Opioids Use In Geriatric Patients With Hip Fracture?

Authors:

Kar Mun Cheong (1), Tsai Tou-Yuan (1), Su Yung-Cheng (1)

1. Emergency department, TzuChi, Chiayi, Taiwan, China

Keywords: ultrasound, pain control, hip fracture, geriatric

Abstract :

Background

Hip fractures have been a major health problem in geriatric patients which cause significant morbidity and mortality. Safe and effective pain management plays a very important role. However, opioid therapy can associate with delirium, risks of respiratory failure and gastroenterology failure. Our study purpose was to determine the impact of ultrasound-guided femoral nerve blocks(FNB) on opioid use in geriatric group and their hospital length of stay.

Methods

This is a retrospective cohort study of 193 patients, aged 60 years or older, with hip fracture who presented to emergency department from 1 December 2018 to 31 November 2019. Patient variables were age, gender, and initial 10-point Numerical Pain Rating Scale (NPRS). The primary outcome was opioid consumption in the emergency department; secondary outcomes included hospital length of stay, nerve block complications, morbidity and mortality. Patient characteristics and outcome measures are reported as means, standard deviations (SDs), medians, and percentages as appropriate. Statistical analysis was performed using Statistics Analysis System (SAS). Chi-square test was used for categorical variables, and logistic regression was used to analyze data with dichotomous outcomes; $p < 0.05$ was considered statistically significant.

Results

During the study period, a total of 193 patients with acute pain secondary to hip fractures were treated in emergency department. Thirty-three patients were treated with ultrasound-guided FNB, and 160 patients did not. There were no differences in age, gender, and initial NPRS between the two groups. Percentage of opioids use was 45.45% in FNB group, and 50.63% in patients without FNB. Mean hospital length of stay were 9.10 days in FNB group, and 10.34 days in patients without FNB. There were no statistically significance in percentage of opioids($p=0.589$) and mean hospital length of stay($p=0.153$). No complications, morbidity, or mortality developed in the FNB group. Two patients died in non-nerve block group; however it is not correlated to orthopedic

issues.

Discussion & Conclusions

Although ultrasound-guided femoral nerve block does not reveal statistically significance, it could be safe and tend to decrease the use of opioids and hospital length of stay in geriatric patients with hip fractures.

Authors:

Anne-Laure Feral-Pierssens (1), Claire Rives-Lange (2), Joane Matta (3), Victor Rodwin (4), Marcel Goldberg (5, 6), Philippe Juvin (7), Marie Zins (5, 6), Claire Carette (2), Sebastien Czernichow (5, 6)

1. Emergency Department, Georges Pompidou European Hospital, Paris, France
2. Service de Nutrition, Hôpital Européen Georges Pompidou, AP-HP, Paris, France
3. Service de Nutrition, Holy Spirit University, Jounieh, Lebanon
4. Wagner School of Public Service, New York University, New York, USA
5. UMS 11 Cohorte épidémiologique en population, INSERM, Villejuif, France
6. Santé Publique, Université Paris Descartes, Paris, France
7. Emergency Department, European Georges Pompidou Hospital, Paris, France

Keywords: Access to care ; Unmet healthcare needs ; universal health insurance (UHI) ; social deprivation ; Constances cohort

Abstract :

Objectives : We investigate the reliability of a survey question on forgone health care services for financial reasons, based on analysis of actual healthcare use over the three-year period preceding response to the question. We compare the actual use of different health services (general practitioner, emergency department, hospital admission) by patients who report having forgone health care to those who do not.

Methods : Based on a prospective cohort study (CONSTANCES), we link survey data from enrolled participants to the Universal Health Insurance (UHI) claims database and compare use of health services of those who report having forgone health care to controls. We present multivariable logistic regression models and assess the odds of using different health services.

Results : Compared to controls, forgoing care participants had lower odds of consulting GPs (OR=0.83 ; 95% CI=0.73, 0.93), especially specialists outside hospitals (gynecologists : 0.74 (0.69, 0.78) ; dermatologists : 0.81 (0.78–0.85); pneumologists 0.82 (0.71–0.94); dentists 0.71 (0.68, 0.75) ; higher odds of ED visits (OR=1.25 ; 95% CI=1.19, 1.31) ; and no difference in hospital admissions (OR=1.02 ; 95% CI=0.97, 1.09). Participants with lower occupational status and income had higher odds of forgoing health care.

Conclusion : The perception of those who report having forgone health care for financial reasons is consistent with their lower actual use of community-based ambulatory care (CBAC). With lower odds of consulting physicians in CBAC and higher odds of visiting ED, our study supports the notion that EDs might partially replace GPs and specialists for populations that forgo seeking health care in CBAC. While UHI may be necessary to improve healthcare access, it does not address the social factors associated with the population forgoing health care for financial reasons.

#22893 : Management of non-traumatic chest pain in homeless patients in the Emergency Department : do they experience suboptimal care ?**Authors:**

Zoe Semard (1), Anne-Laure Feral-Pierssens (2)

1. , aucun, Lyon, France

2. Emergency Department, Georges Pompidou European Hospital, Paris, France

Keywords: Homeless; chest pain; level of care; suboptimal care; healthcare access; inequities

Abstract :

INTRODUCTION:

Homeless individuals have a mortality rate 4 times higher than the general population. Cardiovascular (CV) diseases are the second cause of death in this population which is associated to a higher prevalence of CV risk factors. As other vulnerable populations, when sick homeless often experience suboptimal care. Emergency departments (EDs) remain their primary gateway to the healthcare system. Our aim was to compare, in the ED, the level of care for the management of non-traumatic chest pain between homeless patients and non-homeless patients.

PATIENTS AND METHOD:

We performed a multicentric, retrospective, case-control study in 4 adults' EDs in France. All homeless patients visiting ED for a non-traumatic chest pain between 2007 and 2017 were included. For each homeless patient, a non-homeless control (same reason to visit, age (± 5 years, sex, ED) was included. We assessed their level of care by investigating if an optimal diagnostic approach was performed. This approach was defined as the recording of patients' vital parameters, performed electrocardiogram (EKG) and clinical examination. The first endpoint was the proportion of patients for whom an optimal diagnostic approach was performed. Conditional multivariable logistic regressions adjusted for CV risk factors and history were performed to compare homeless patients to control. We assessed odds Ratio with 95% confidence interval.

RESULTS:

Over the study period, 82 homeless patients were included. There was no difference in the level of care performed between the two groups regarding the optimal diagnostic approach (OR=0.74; 95% CI 0.35-1.56). Pain was less often registered and analgesic were less often given for homeless patients versus controls (7% vs. 21%, $p=0.013$). The length of stay in the ED was longer for homeless than the controls (480 minutes vs 300 in controls $p = 0.0009$).

CONCLUSION:

Diagnostic management of non-traumatic chest pain in homeless patients is similar to non-homeless patients. Systematic screening of CV risk factors in ED in this population seems essential.

#22894 : Impact study of rapid diagnosis of influenza in an emergency department during the 2018 2019 epidemic season

Authors:

Alizée Gagnaire (1), Julien Raconnat (2), Jeannot Schmidt (2), Cecile Henquell (3), Amélie Brebion (3), Virginie Goulvin (1), Marie Thomas (4), Mélissa Fleury (5), Farès Moustafa (2)

1. Emergency department, CHU Clermont-Ferrand, Clermont-Ferrand, France
2. pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-Ferrand, France
3. Service de Virologie médicale, CHU Clermont-Ferrand, Clermont-Ferrand, France
4. Urgences Adultes, CHU Clermont-Ferrand, Clermont-Ferrand, France
5. Pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-ferrand, France

Keywords: emergency, diagnosis, flue

Abstract :

Introduction : Influenza occurs seasonally and affects between 3 and 6 million people each year, resulting in a sharp increase in emergency consultations. With the arrival of the rapid point-of-care testing (POCT), the questions of the use of this technology arose. The main objective of this study was to show that the use of POCT in emergency department could reduce the length of stay of these patients.

Method : We conducted a prospective, monocentric, randomized and controlled study in a French University hospital between January and March 2019. Patients presenting with a suspected flu were randomly assigned to the laboratory group (standard of care performed in the laboratory with Simplexa Flu A/B & RSV Direct Diasorin) or to the point-of-care testing (POCT with Xpert Flu/RSV Cepheid). The two devices have equivalent sensitivity and specificity (97,9%/99,4%). The primary outcome was the length of stay in the emergency department. This study received an ethical approval by the ethics committee of Sud-Ouest et Outre-Mer II.

Results : 203 patients were included with 111 (54.7%) in the POCT group and 92 (45.3%) in the laboratory group. An overall decrease in emergency department length of stay was highlighted by 1.7 hours ($p=0.02$, 95%CI: 1.13-2.42) and more specifically by 3.5 hours ($p=0.02$, 95%CI: 1.48-4.17) in the influenza patient subgroup. Without, however showing any evidence of significant increase in costs ($p=0.17$).

Conclusion: This study shows the value of using point-of-care testing by rapid influenza diagnostic test in emergency unit in the management of patients suspected of influenza during the epidemic periods. With sensitivity and specificity equivalent to the techniques used by the laboratory, its proper use allows a reduction in emergency time without significant increases in costs.

#22895 : Prognostic factors and mortality at one year for patient over 75 years old with pulmonary embolism.

Authors:

Zoe Faure (1), Dora Furnon (1), Farès Moustafa (2), Nadine Breuil (2), Ludovic Miraillet (3), Marie Thomas (1), Sara Serrar (4), Virginie Goulvin (5), Mélissa Fleury (4), Jeannot Schmidt (2)

1. Urgences Adultes, CHU Clermont-Ferrand, Clermont-Ferrand, France
2. pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-Ferrand, France
3. Urgences Adulte CHU Clermont-ferrand, CHU Clermont-ferrand, Clermont-Ferrand, France
4. Pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-ferrand, France
5. Emergency department, CHU Clermont-Ferrand, Clermont-Ferrand, France

Keywords: pulmonary embolism, death, elderly

Abstract :**BACKGROUND**

Venous thromboembolic is a common cardiovascular disease in the elderly. Despite the high rate of morbidity and mortality in elderly, as well as the high cost of care, pulmonary embolism in this population has been little studied.

The main objective of our study was to determine the mortality rate. The secondary objectives were to describe this population and to determine the prognostic factors for unfavorable evolution.

METHOD

We carried out an observational, retrospective, monocentric study of a university hospital center. Included patients were patients over 75 years old, in whom pulmonary embolism was diagnosed from October 2009 to June 2018.

RESULTS

We included 730 patients of whom 148 were lost to follow-up. The one-year mortality rate was 16%. Patients who died at 1 year were more extensive (respectively, 85 +/- 6 years vs 82 +/- 5 years, $p < 0.001$), with more frequently a history of AF (respectively, 19% vs 9%; $p = 0.003$), cancer pathology (respectively, 47% vs 5%; $p < 0.001$), institutionalization in nursing homes (respectively, 25% vs 10%; $p < 0.01$) and dementia (respectively, 33% vs 16%; $p < 0.001$) performed on patients living at one year. Similarly, patients who died at one year, Compared to those who were alive, having a lowered TAS at admission (respectively, 133 +/- 26 vs 141 +/- 27 mmHg; $p = 0.003$), a lowered SaO₂ (respectively, 89 +/- 9 vs 92 +/- 6; $p = 0.001$) and high PESI and sPESI scores. Biologically, these patients who died at one year more frequently had a high troponin (respectively, 66% vs 51%; $p = 0.006$), high NT pro BNP (respectively, 37% vs 30%; $p =$

0.041), a clearance according to Cockcroft lowered (respectively, 50 +/- 20 vs 61 +/- 23 ml / min; p <0.001).

CONCLUSION

Our study has shown a mortality rate at one year of 16% for patients over 75 years old with PE. We were able to identify different clinical, biological and demographic prognostic factors associated with this fatality rate, showing the advantage of achieving a long-term prognostic score in the elderly according to different parameters.

#22896 : Impact of the consultation of "internet tools" on the attendance of adult emergencies.

Authors:

Camille Auroux (1), Aurélien Mulliez (2), Thomas Fleuchot (3), Jean-Baptiste Bouillon (1), Dorian Teissandier (3), Mélissa Fleury (3), Virginie Goulvin (4), Sara Serrar (3), Julien Raconnat (5), Jeannot Schmidt (5), Farès Moustafa (5)

1. Urgences Adultes, CHU Clermont-Ferrand, Clermont-Ferrand, France
2. Service Biostatistique, CHU de Clermont-Ferrand, Clermont-Ferrand, France
3. Pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-ferrand, France
4. Emergency department, CHU Clermont-Ferrand, Clermont-Ferrand, France
5. pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-Ferrand, France

Keywords: GAFA, Internet, emergency

Abstract :

INTRODUCTION

Over the years, emergency services have experienced a sharp increase in requests for consultations, contributing to the progressive saturation of these structures. At the same time, for several years now, there has been easier access to GAFAs (Google, Amazon, Facebook, Apple) allowing patients to have 24-hour access to medical information. To our knowledge, no French study has evaluated the impact and prevalence of consulting a website before admission to the emergency room.

The objective of our work is to assess the impact of a prior search for medical information on a website in patients presenting to an emergency department, as well as the relevance of consultation in the emergency department.

METHOD:

This is a pilot, observational, monocentric, prospective study carried out within the adult emergency department of a teaching hospital over the period from 11/03/2019 to 24/03/2019. Patients presenting to the emergency department on their own were included. An anonymized questionnaire was given to patients at the reception. (NCT03881839)

RESULTS:

Among the 462 patients included in our study, 14% of patients consulted the internet versus 86%, with 50.8% and 58.8% respectively of diagnoses qualifying the passage to the emergency room as "justified / relevant". Patients accessing the internet are more commonly between the ages of 18

and 24, have a higher level of education and have a mobile phone. These patients said they sought medical information several times a day, sometimes for symptoms that started less than 5 days ago. After multivariate analysis, the justified / relevant nature of the passage is less frequent in patients who consult the internet every day (OR = 0.48, CI 95%: 0.28-0.84, $p = 0.01$) and in those who consult medical information websites (OR = 0.51, 95% CI: 0.24-1.06, $p = 0.072$). On the other hand, the justified / relevant nature of the passage appears more frequent in patients who have symptoms progressing for less than 24 hours (OR = 1.85, 95% CI: 1.25-2.72, $p = 0.002$) and for those who have consulted the internet (OR = 2.11, 95% CI: 1.25-3.56, $p = 0.005$).

CONCLUSION:

Our study showed that certain criteria influence emergency room visits: age, level of study and date of onset of symptoms <5 days. It also highlighted more unjustified passages in patients visiting medical information sites or consulting the internet daily.

#22897 : Use of the NEWS score for the early detection of patients at risk of unfavorable outcome.

Authors:

Florian Bonnet (1), Jean-christophe Bouennec (1), Aurélien Mulliez (2), Sebastien Loiseau (3), Audrey Niel (4), Dorian Teissandier (4), Virginie Goulvin (5), Mélissa Fleury (4), Julien Raconnat (6), Jeannot Schmidt (6), Farès Moustafa (6)

1. Urgences Adultes, CHU Clermont-Ferrand, Clermont-Ferrand, France
2. Service Biostatistique, CHU de Clermont-Ferrand, Clermont-Ferrand, France
3. Urgences Adultes, CH Montluçon, Montluçon, France
4. Pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-ferrand, France
5. Emergency department, CHU Clermont-Ferrand, Clermont-Ferrand, France
6. pôle SAMU-SMUR-Urgences, CHU de Clermont-Ferrand, Clermont-Ferrand, France

Keywords: NEWS score, emergency, triage

Abstract :**Introduction:**

Several tools have been developed to detect patients at risk of deterioration with triage scores (CIMU: Classification Nurses of Emergency Departments or FRENCH: FRENch Emergency Nurses Classification in Hospital) and early warning scores (qSOFA: quick Sepsis-related Organ Failure Assessment or NEWS score: National Early Warning Score). The value of the NEWS score in detecting and monitoring patients at risk of deterioration has been demonstrated, but never in a French emergency service.

The objective of our study was to assess the ability of the NEWS score to detect, at triage, patients who will have an unfavorable course.

Methods:

We carried out a retrospective, monocentric, descriptive study of patients admitted to the emergency department of a CHU from 01/04/2018 to 31/03/2019. We included patients with all NEWS score items. The main outcome measure was death, and / or a transfer to an intensive care unit, intensive care unit, continuing care unit.

Results:

Among the 4,024 visits in our emergency unit, 631 (15.7%) presented the primary endpoint, 961 (23.9%) were classified NEWS intermediate, and 746 (18.5%) were classified NEWS high. 9% of visits with a weak NEWS showed an unfavorable development, compared to 17.2% for intermediate NEWS and 34.6% for high NEWS ($p < 0.001$). Less than 1% of visits with a weak NEWS died compared to 4.1% for intermediate NEWS and 14.7% for high NEWS ($p < 0.001$). In multivariate analysis, the risk of an unfavorable development compared to a low NEWS score was multiplied by 1.99 (95% CI: 1.59–2.49; $p < 0.001$) for intermediate NEWS and by 4.8 (95% CI: 3.90–5.99; $p < 0.001$) for high NEWS. The NEWS AUROC (0.7125 [95% CI: 0.687–0.737]) was significantly higher than that of the qSOFA (0.6280 [95% CI: 0.603–0.653], $p < 0.001$), unlike the FRENCH (0.696 [95% CI: 0.674–0.718], $p = 0.24$).

Conclusion:

Our study showed that the NEWS score was useful for the early detection of patients at risk of deterioration. However, the insufficient collection of some parameters such as respiratory rate, suggests an underestimation of the performance of this score. A prospective study with a systematic collection of all the parameters necessary for calculating the NEWS score could study this hypothesis.

#22899 : Association between acute intracranial hemorrhage and ground-level falls in geriatric patients taking aspirin**Authors:**

RICHARD SHIH (1)

1., Florida Atlantic University College of Medicine, Boynton Beach, USA

Keywords: Geriatrics, Head Trauma, Intracerebral Hemorrhage, Fall

Abstract :

Background: Ground-level falls are the most common injury seen in geriatric patients, with nearly 25% of people age 65 or older experiencing a fall-related injury annually. Among these patients, aspirin use is widespread due to its many beneficial effects. However, its platelet effects may also increase the risk of intracranial hemorrhage (ICH) in the event of head trauma, which is a major cause of morbidity and mortality. Our study aims to investigate if aspirin use increases the prevalence of acute ICH in geriatric patients who present to the emergency department (ED) after suffering head trauma due to a ground-level fall.

Methods: This investigation was a prospective cohort study at two level-one trauma centers, taking place during a 4-month period from August 2019 to December 2019. Included patients were age ≥ 65 who suffered head trauma associated with a ground-level fall. Patients who presented to the ED with a head-related injury greater than 24 hours prior to arrival, transferred from another facility, experienced penetrating injuries, or taking an anticoagulant or antiplatelet medication other than aspirin were excluded. Rates of ICH were compared between patients taking aspirin and those who were not.

Results: 1,222 consecutive patients were enrolled. 342 were in the aspirin group and 880 in the non-aspirin group. Mean age was 80.8 years. The aspirin group tended to have patients with higher rates of diabetes, hypertension, coronary artery disease, and atrial fibrillation. ICH was found in 8.8% of the aspirin patients and 12.6% in the non-aspirin patients, which was not a statistically significant difference.

Discussion & Conclusions: Aspirin is commonly used for its beneficial cardiovascular effects despite its effects on the hematologic system. Head injury among older individuals are common and are most commonly caused by ground level falls. Our study looked at geriatric ED patients who have experienced head trauma from fall and found that preinjury aspirin use did not appear to increase the incidence of acute intracranial hemorrhage.

Trial Registration: ClinicalTrials.gov Identifier: NCT04044924

Funding: This project was supported by the The Florida Medical Malpractice Joint Underwriting Association Dr. Alvin E. Smith Safety of Health Care Services Grant, RFA 2018-01.

Ethical Approval: This study was approved by the Florida Atlantic University Institutional Review Board

Trial Registration / Funding Information (only) :

Trial Registration: ClinicalTrials.gov Identifier: NCT04044924 Funding: This project was supported by the The Florida Medical Malpractice Joint Underwriting Association Dr. Alvin E. Smith Safety of Health Care Services Grant, RFA 2018-01.

#22900 : Risk factors for long term mortality in patients admitted with infection – a prospective population-based cohort study

Authors:

Lana Chafranska (1), Oscar Stenholt (2), Rune Sørensen (3), Osama Abdullah (4), Finn Erland Nielsen (5)

1. Department of Emergency Medicine , Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark, Copenhagen, Denmark
2. Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark, Copenhagen , Denmark
3. Department of Emergency Medicine, Slagelse Hospital, Slagelse, Denmark
4. Department of Emergency Medicine , Slagelse Hospital, Slagelse , Denmark
5. Copenhagen Center for Translational Research, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark, Copenhagen, Denmark

Keywords: Infections. Emergency department. Long term mortality. Risk factors

Abstract :

Background. There is limited data on prognosis and risk factors that affect long-term mortality after admission to an emergency department (ED) with infection. The aim of this study was to examine long-term mortality among adult ED patients with infectious diseases, and to identify factors associated with long-term mortality.

Methods. A prospective observational cohort study of all adult (≥ 18 years) infected patients admitted to the ED of Slagelse Hospital from 1 October 2017 to 31 March 2018. All patients with suspected or documented infection upon arrival to the ED, and treated with antibiotics, were included. The primary outcome was long term all-cause mortality. Data on mortality was obtained from the Danish Civil Registration System during March 2020. We followed patients from the date of admission until the end of the follow-up period, emigration or death, whichever came first. We used Cox regression to estimate adjusted hazard ratios (aHR) with 95% confidence intervals (CI) for mortality. We used multiple imputation to impute missing baseline values of laboratory tests in the regression analyses.

Results. A total of 2,110 patients (51.3% female) with a median age of 73 years (IQR 60-83 years) were included. In-hospital and 28-day mortality was 3.7% (95% CI 2.9%-4.5%) and 7.5% (95% CI 6.4%-8.7%), respectively. After a median follow-up of 753 days (2.1 years) (IQR 340-821 days), a total of 758 (35.9%, 95% CI 33.9-38.0%) patients had died. Age (aHR 1.05; 95% CI 1.04-1.05), Charlson Comorbidity Index (with zero as reference) of 1-2 (aHR 1.77; 95% CI 1.42-2.20) and 3+ (aHR 3.21; 95% CI 2.55-4.03), if admitted with sepsis within the last year before index admission (aHR 1.38; 95% CI 1.19-1.60), a Sequential Organ Failure Assessment (SOFA) score ≥ 2 (aHR 1.59; 95% CI 1.37-1.85), qSOFA score ≥ 2 (aHR 1.50; 95% CI 1.21-1.85) on admission to the ED, and lengths of stay (aHR 1.02; 95% CI 1.02-1.03) were independently associated with long-term mortality. Increasing hemoglobin value (aHR 0.86; 95% CI 0.81-0.91) on admission to the ED was associated with a reduced risk of long-term mortality.

Discussion and Conclusions. More than one-third of a population of patients admitted to an ED with infectious diseases had died during a median follow up period of 2.1 years. Age, comorbidity burden, a history of sepsis before index admission, signs of organ dysfunction upon admission, and length of stay were independent determinants of long-term mortality. Higher hemoglobin concentrations reduced the risk of death.

Trial Registration / Funding Information (only) :

Region Zealand Health Research Foundation and Naestved, Slagelse and Ringsted Hospitals Research Fund.

#22901 : Hair tourniquet syndrome. Case report

Authors:

MOH'D IRBASH (1), Asoka Weerasinghe (2), Terasa Broom (3)

1. ASSOCIATE SPECIALIST EMERGENCY MEDICINE, MIDYORKS NHS TRUST, Dewsbury, United Kingdom
2. Emergency medicine consultant, Midyorks NHS Trust, Dewsbury, United Kingdom
3. Emergency medicine consultant, Midyorks NHS Trust, Wakefield, United Kingdom

Keywords: Toe, hair tourniquet, appendage gangrene

Abstract :**Background**

Described by Quinn in 1971, hair tourniquet syndrome (HTS) is a rare clinical disorder characterised by a thread of hair or different material wrapping around an appendage, most commonly toes but digits and genitalia have been reported in literature. It usually affects infants less than two months of age. In certain cases non accidental injury should be considered. HTS is a real surgical and paediatric emergency because the constricting hair or fiber causes reduction in venous and lymphatic drainage, which leads to swelling, oedema and congestion of affected part of body. If not diagnosed promptly, obstruction may cause arterial occlusion and ischemic injury. Prolonged ischemic injury leads to tissue necrosis, gangrene and ultimately amputation.

There are many risk factors associated with HTS. Pregnant women experience severe hair loss. After child birth hair growth returns to normal within 6 months. This condition is called "Telogen Effluvium". Lack of attention while bathing and wrapping the child without checking appendages carefully should also be considered. Carpet fibers are also considered as one of the risk factors.

The mainstay of treatment for HTS is to remove constriction. Many different techniques have been described. The careful use of fine scalpels or needles to get under the hair tourniquet are difficult because of the swelling but worth trying due to the emergency of the situation. Serour and Gorenstein (2003) described a surgical technique with dorsal peritendinous longitudinal incision of a strangulated appendage deep to the phalanx bone. This will result in release of the constricting hair and its removal without risks of iatrogenic soft tissue damage. Fortunately, in our reported case we managed to remove the hair constriction in the emergency department without the need to admit the patient for surgical removal of hair.

Case Presentation

8 weeks old male patient attended our department after his mum noticed swelling in his right 3rd toe. The child was in distress. His observations were within normal range except for tachycardia 167 bpm. The toe looked swollen, engorged, red and inflamed. A magnifying glass was used to look at the toe and strand of hair was seen constricting the toe. The strand of hair was removed with the careful use of a needle and fine tweezers. The child was kept in for observations for a couple of hours until improvement of the colour and swelling of the toe was noticed and the child was discharged home.

Conclusion

HTS is a clinical diagnosis and clinicians should be familiar with it. However, it can be misinterpreted as infection, trauma, insect bite, allergic reaction or dermatitis. Attentive examination of digits in an irritable child with excessive crying is essential.

#22902 : Painless management of hair tourniquet syndrome. Case report**Authors:**

MOH'D IRBASH (1), Ann Goodall (2), Asoka Weerasinghe (3), Terasa Broom (4)

1. ASSOCIATE SPECIALIST EMERGENCY MEDICINE, MIDYORKS NHS TRUST, Dewsbury, United Kingdom
2. Sister in paediatric emergency medicine, Midyorks NHS Trust, Dewsbury, United Kingdom
3. Emergency medicine consultant, Midyorks NHS Trust, Dewsbury, United Kingdom
4. Emergency medicine consultant, Midyorks NHS Trust, Wakefield, United Kingdom

Keywords: Toe, hair tourniquet, appendage gangrene

Abstract :**Painless management of hair tourniquet syndrome**

Hair tourniquet syndrome (HTS) is a rare entity characterised by the presence of a constricting hair or fibers of different material around body appendages. HTS is a pediatric and a surgical emergency, which can cause ischemic strangulation and amputation of the appendage as end result. Unfortunately, it is still rarely recognized and it could be misinterpreted as infection, dermatitis or trauma. More than third of cases affect the third toe and the involvement of two toes have been reported in literature in in 23.5% of cases. Incidence is higher in infants under the age of 2 years, with a median age of 4 months.

HTS is mostly an accidental injury, however, child abuse must be considered in certain cases. Risk factors for HTS include telogen effluvium in the post-partum period or loss of fibers using old clothes or socks. It was also suggested that it can occur with the baby's digital movements within the loose fabric of clothing such as socks. Moreover, cases have been described in babies living in extreme poverty and more commonly in summer season.

In the last 4 years the authors have treated 3 cases of HTS. All of them were under 10 weeks of age. We used a magnifying glass and fine surgical instruments to remove the constricting hair. Although we were successful in the 3 occasions, this procedure was difficult, time consuming and very distressful to the family and to the patient. Having reflected upon the evidence in literature we found that O'Gorman and Ratnapalan (2011) have used a depilatory cream for hair removal. They concluded that it is a safe and effective method, but is applicable only on superficial hairs and not for the deeper ones.

Case presentation

9 weeks old female patient attended our department early hours in the morning. The parents noticed that she was crying continuously. They noticed redness and swelling of the 3rd toe of the right foot. Her observations were within normal range except for tachycardia as she was crying. Her chest was clear and her ears and throat appeared normal. No rash and no bulging fontanelle, and her feeding and activity were not changed. The 3rd toe appeared very swollen, red and congested with a circumferential groove. There was no history of trauma mentioned by the family. After consenting the parents we applied a depilatory cream (Nair) for 5 minutes and washed the area afterward. The erythema and swelling improved dramatically and the child was discharged home with advice.

Conclusion

The use of depilatory agents can break hair but not thread of different material. It is effective, safe and painless methods for superficial hair tourniquets; however, it should not be used in cases where the skin is broken or in the case of allergic reactions.

#22903 : Epiploic appendagitis: uncommon surgical diagnosis**Authors:**

MOH'D IRBASH (1), Asoka Weerasinghe (2), Helen Culley (3)

1. ASSOCIATE SPECIALIST EMERGENCY MEDICINE, MIDYORKS NHS TRUST, Dewsbury, United Kingdom
2. Emergency medicine consultant, Midyorks NHS Trust, Dewsbury, United Kingdom
3. Foundation year 2 emergency medicine, Midyorks NHS Trust, Dewsbury, United Kingdom

Keywords: epiploic appendices, acute diverticulitis, abdominal pain

Abstract :**Background**

Epiploic Appendagitis (EA) is a rare, benign and self-limiting inflammation of a colonic epiploic appendage resulting in acute abdominal pain. Its clinical presentation can be confused with other acute abdominal pathologies. It has an incidence rate of 8.8 cases per one million a year in the general population. We refer back to our previous abstract, which was accepted in 2019 as an E-Poster by the European society of emergency medicine Conference.

The blood supply of each epiploic appendage originates from two endarteries branching from the vasa recta longa of the colon, and is drained by a single tortuous vein that passes through a narrow pedicle at its base.

Due to their excessive mobility, limited blood supply and pedunculated shape, epiploic appendages are prone to torsion. Clinically, the spontaneous torsion leading to ischemia and gangrenous necrosis or the venous thrombosis of one of the epiploic appendages, could cause inflammation resulting in sharp or stabbing abdominal pain. The pain is usually sudden and abrupt, well localized, not radiating and worsened with movement.

Presentation

We present the case of 52 year old female patient who presented acutely with severe left iliac fossa pain that mimicked acute diverticulitis. She noticed that her pain was exacerbated when she drove over the speed bumps. The patient is on warfarin for previous pulmonary embolism. The pain was described as sudden, severe and sharp, although using anti-inflammatory analgesia had helped with the pain. Her bloods including the inflammatory markers were within normal range. Her international normalized ratio was 3.1 and her abdomen computed tomography scan confirmed the inflammation of the epiploic appendage in her descending colon. The patient was discharged home and advised to take anti-inflammatory medication.

Conclusion

Abdominal pain is the most common cause for non-trauma related hospital admissions. Emergency physicians should be aware of EA and include it in the differential diagnosis of acute and localized abdominal pain. The correct diagnosis will prevent unnecessary hospitalization and can optimise the treatment. We speculate that the recognition of EA as a rare and acute self-limiting disease, and the use of the appropriate diagnostic tools would lead to a reduction in the diagnosis of non-specific abdominal pain and an increase of patients diagnosed with EA.

#22904 : Current Status of Point-of-care Ultrasound: A Cross-sectional Survey in Taiwan

Authors:

Yung-Yi Cheng (1), Tou-Yuan Tsai (1), Kar Mun Cheong (1), Cheng-Jui Wu (1), George Gozari (1), Su Weng Chau (1), Yi-Kung Lee (1)

1. Emergency department, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan, Chia-Yi County, Taiwan, China

Keywords: POCUS, ultrasounds

Abstract :**Background**

Globally, numerous organizations have published emergency ultrasound training and practice survey studies. However, there is no published survey of point-of-care ultrasound (POCUS) in Taiwan emergency departments. To better understand the current status, we investigated what Taiwan emergency department systems are doing for POCUS. To describe the current state of POCUS practice in Taiwanese emergency departments and investigate the practitioners' perception of potential barriers to applications of POCUS into clinical cares.

Methods

This is a prospective, cross-sectional, survey-based study of Taiwanese emergency departments, using web-based survey instrument assessing current POCUS practice system. We introduced an online-questionnaire survey, posted on POCUS-related and emergency medicine-related Facebook groups in February 2019.

Results

Overall, 55 emergency physicians responded. Thirty-one of them are attending physicians(56%), and 24 are residents(44%). In subgroup analysis, 81% of attending physician are confident in their POCUS practice (more than 7 points in 10-point scale), and 54% in residents subgroup. Among the application of POCUS in systemic protocols, the most mastered field is "Abdominal POCUS"(96.3%), followed by "Lung and Pleural System"(66.7%), "Cardiac POCUS"(45.7%). The most unfamiliar field is "Soft Tissue and Joints"(60.5%), following by "Genital system(including female and male organs)"(51.9%), and "Ultrasound-guided Anesthesia"(46.9%). Responders perceived lack of structured teaching experiences in clinical practice, lack of credentialing systems for residency programs, and lack of financial support as significant barriers to POCUS practice.

Discussion & Conclusions

We presented a simple survey regarding POCUS practice in emergency systems. Despite a general consensus that ultrasound is an important skill, there are still lots of barriers and unfamiliar fields for emergency physician to get through.. Whereas many limitations existed in this study, there is a need for nationwide standardized survey to guide POCUS practice and credentialing programs in Taiwan.

#22905 : Leaving Against Medical Advice: Results from a Prospective National Cross-Sectional Survey of Emergency Medicine Providers in China**Authors:**

Joseph Walline (1), Priscilla Song (2), Kevin Hung (1), Colin Graham (1)

1. Accident and Emergency Medicine Academic Unit, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, Hong Kong

2. Centre for the Humanities and Medicine, The University of Hong Kong, Hong Kong, Hong Kong

Keywords: against medical advice, discharge, china, survey

Abstract :**Background**

Deciding when a patient can leave the emergency department (ED) against medical advice (AMA) is a fundamental task of emergency medicine providers. Although the notion of patient autonomy is emerging in the People's Republic of China, there remains a strong traditional consensus that the family should make medical decisions for the patient. This prospective study sought to document and explore emergency medicine provider attitudes towards patients leaving AMA from EDs in mainland China, and identify any associations with gender, professional role, seniority, or practice location.

Methods

This prospective survey was conducted on April 12-14, 2019 at a national emergency medicine conference in Beijing, China. Clinically active emergency medicine physician and nursing attendees (aged > 18) were recruited to complete an online survey using REDCap for data collection and management. Descriptive statistics and chi-squared analysis were performed using SPSS.

Results

737 completed surveys were collected from a total of 2990 attendees (24.6%). 423 (57.6%) respondents identified as male. 31 province-level divisions of the People's Republic of China were represented. 617 (83.7%) of respondents were physicians and 120 (16.3%) were nurses. 571 (78.2%), worked in the same province they were born and 482 (67.5%) worked in the same hospital they did clinical training.

In considering a patient's leaving AMA from the ED, the following reasons were considered acceptable by most respondents: 476 (68.8%) cited patients refusing treatment, 474 (68.5%) cited families refusing treatment, and 572 (82.7%) if the patient's condition was incurable. 214 (30.9%) respondents agreed that patients could leave if they personally could not pay for treatment, while 278 (40.2%) found leaving acceptable if the family was unable pay for treatment.

A larger percentage of physicians (84.2%) than nurses (74.0%, $p=0.012$) agreed that leaving the ED was valid if the patient's condition was incurable. There were no other significant gender, professional role, seniority, or practice location associations with these factors.

Discussion and Conclusions

This survey found that a significant majority of healthcare workers in Chinese EDs found it acceptable for patients or families to refuse further care and leave the ED. A majority of respondents felt a patient's incurable condition was a valid reason to AMA, but not an inability to pay.

Trial Registration / Funding Information (only) :

None

#22906 : Hair tourniquet syndrome. Images

Authors:

MOH'D IRBASH (1), Asoka Weerasinghe (2)

1. ASSOCIATE SPECIALIST EMERGENCY MEDICINE, MIDYORKS NHS TRUST, Dewsbury, United Kingdom
2. Emergency medicine consultant, Midyorks NHS Trust, Dewsbury, United Kingdom

Keywords: Hair tourniquet, gangrene, third toe

Clinical images of patients (suitably anonymised)

Patient images are involved and I have adequate permission to use them

Abstract :

Hair tourniquet syndrome (HTS) is a rare clinical disorder characterised by a thread of hair or different material wrapping around an appendage, most commonly toes but digits and genitalia have been reported in literature. It usually affects infants less than two months of age. HTS is a real surgical and paediatric emergency because the constricting hair or fiber causes reduction in venous and lymphatic drainage, which leads to swelling, oedema and congestion of affected part of body.

The mainstay of treatment for HTS is to remove constriction. Many different techniques have been described. The careful use of fine scalpels or needles to get under the hair tourniquet are difficult because of the swelling but worth trying due to the emergency of the situation. Dorsal peritendinous longitudinal incision of a strangulated appendage deep to the phalanx bone and the use of hair depilatory creams.

HTS is a clinical diagnosis and clinicians should be familiar with it. However, it can be misinterpreted as infection, trauma, insect bite, allergic reaction or dermatitis. Attentive examination of digits in an irritable child with excessive crying is essential.



#22907 : Abdominal pain following low-energy impact pubic rami fracture**Authors:**

Irene Grossi (1), Damien Ryan (1)

1. Emergency Department, University Hospital Limerick, Limerick, Ireland

Keywords: Vascular injury, Pubic rami fractures, Abdominal pain in the elderly.

Abstract :

We report the unusual case of a 70 year old man who sustained vascular injury following a low-energy minimally displaced pubic rami fracture.

Patient presented to the Emergency Department from a rehabilitation centre with severe right hip pain after a fall from standing. He sustained an intra-cerebral haemorrhage two months earlier from which he was recovering well. His background history included previous DVT-PE for which he had an IVC filter in situ and was receiving Tinzaparin.

On arrival in the Emergency Department, primary survey was unremarkable and initial radiographs showed a minimally displaced right superior inferior pubic rami fractures which was treated conservatively.

Forty-eight hours post fall he developed severe abdominal pain and re-attended the Emergency Department. He was found to be hypotensive with a drop in his haemoglobin level.

Physical examination revealed tenderness and guarding in the suprapubic region and right iliac fossa.

After resuscitation with blood products and reversal of the LMWH, abdominal and pelvic CT showed a large extraperitoneal haemorrhagic collection in close proximity of the known right sided ramus fracture. This prompted an urgent arteriogram of the right common iliac artery which didn't demonstrate active extravasation of contrast. The patient was transferred to ICU for further care.

Learning points:

Vascular injury following low-energy trauma should be considered into the differential diagnosis of elderly patients presenting with acute abdominal pain following pubic rami fracture.

A high index of suspicion in high risk patients such as those on anticoagulants can be life-saving.

Conclusion:

Pubic rami fracture are common injuries in elderly patients following low energy falls.

These fractures are considered stable and treated conservatively.

Delayed bleeding as a consequence of low-energy minimally displaced pubic rami fracture is uncommon but can be life-threatening if undetected.

Signs of bleeding may develop late after the injury and patients and their families should be instructed to return to the hospital if any sign of shock occur.

Consent

Written informed consent was obtained from the patient for publication of this case report.

#22911 : Care cascade comparison of HCV mono-infected and HIV/HCV co-infected patients participating in a non-targeted emergency department HIV/HCV screening program**Authors:**

Ethan Cowan (1), Joseph Hardardt (2), Samantha Brandspiegel (3), Erick Eiting (3), Yvette Calderon (3)

1. Emergency Medicine, Mount Sinai Beth Israel Medical Center, NY, USA
2. Emergency Medicine, Icahn School of Medicine at Mount Sinai, New York, USA
3. Emergency Medicine, Mount Sinai Beth Israel Medical Center, New York, USA

Keywords: HIV; HCV; screening; linkage to care; public health

Abstract :

Study Objective: Recent studies demonstrate that the emergency department (ED) can play a critical role in Hepatitis C screening and linking care for those who test positive. Along with other public health initiatives, ED HCV screening programs help reduce community HCV burden. Historically, HIV/HCV co-infected patients have had poorer rates of linkage to care, treatment initiation and treatment completion for HCV than HCV mono-infected patients have. We sought to compare the rates of linkage to care between HCV mono-infected and HIV co-infected patients who were screened for HCV and HIV as part of a non-targeted ED HCV/HIV screening program.

Methods: Retrospective review of prospectively collected program evaluation data collected between June 6, 2018 and June 5 2019. Eligible patients had to be 18 years of age and older, triaged to the adult or pediatric ED and able to provide consent for HCV and HIV testing. Socio-demographic variables, HIV and HCV status and linkage to care outcomes were abstracted from the program-screening database. Successful linkage to care was defined as attending at least one outpatient appointment with an HCV care provider. Descriptive statistics (measures of central tendency and dispersion) were computed to characterize the data. Comparisons of groups (HCV mono-infected vs. HIV/HCV co-infected) were compared using Chi-square.

Results: Of the 427 patients found to have active HCV infection (VL+) during the screening period, 41 (9.6%) had unknown HIV status and were excluded from analysis. Of the 386 patients with known HIV status, 56 (13%) were found to be HIV/HCV co-infected. HIV/HCV co-infected patients had a mean age was 51. The majority of HIV/HCV co-infected patients were male (70%), African American (25%) and had public insurance (64.2%). Successful linkage to care was achieved in 37.5% of HIV/HCV co-infected patients. HCV mono-infected patients had a mean age was 51. The majority of HCV mono-infected patients identified as male (78%) and white (24.4%). Most had public insurance (58.7%). Successful linkage to care was achieved in 31.8% of HCV mono-infected patients. A total of 49 patients, (4 with HIV/HCV co-infection and 45 with HCV mono-infection) were lost to follow up. There were no statistically significant differences in demographics, insurance status, or rates of linkage to care between HCV mono-infected and HIV/HCV co-infected patients.

Conclusion: Non-targeted HCV screening in the ED identified a large number of patients with active

HCV infection, of which a significant portion were co-infected with HIV. There were no significant differences in age, gender, race, ethnicity or insurance status between HCV mono-infected and HIV/HCV co-infected groups. Contrary to prior studies, there were also no differences in linkage to care rates between these two groups. Further investigation is required to determine if there are significant differences in HCV treatment initiation and sustained viral response (SVR) between HCV mono-infected and HIV/HCV co-infected individuals.

#22914 : Correlation Analysis between Six Earthquake Death Prediction Models and Actual Death tolls from Mainland China Earthquakes**Authors:**

Mengjiao Tao (1), Tianyi Lu (2), Aoyu Wang (1), Hai Hu (3)

1. , West China School of Medicine, Sichuan University, Chengdu, China

2. West China School of Medicine, SCU, non, Chengdu, China

3. , Emergency Office of West China Hospital, Sichuan University;China International Emergency Medical Team (Sichuan);Chinese National Comprehensive Emergency Medical Rescue Base - Chengdu - CHINA, Chengdu, China

Keywords: Earthquake damage loss assessment; Earthquake disaster classification; Rapid assessment; Preliminary judgment standard; Dead population

Abstract :**Background**

The main factors for casualties after earthquakes include the intensity of the earthquake (magnitude and intensity), geological conditions, time of earthquake, building collapse, and etc. Among them, only the accurate magnitude of the earthquake is known by the rescuers at the very moment when the earthquake happens. Thus, the magnitude the earthquake is used to predict the casualties. However, due to the complexity of injury and death caused by earthquakes and the diversity of the environment,

Methods

We performed a retrospective and observational study on 23 representative earthquakes that occurred in mainland China since the 21st century. Six models (Baotang Lou Model 1991, Baotang Lou Model 1996, ZhiPeng Liu Model 2013, Yao Chen Model 2015 and Elena Samardjieva Model 2002 with two different coefficients) which were all based on the magnitude and widely used to predict death tolls after earthquakes were concluded to calculate the correlation coefficient between each model and actual death toll. Date of casualties were collected and statistical calculations were performed with the SPSS 21.0.

Results

For earthquakes with magnitudes ≥ 5.0 and ≤ 6.5 , the correlations of the formulas were statistically insignificant. For earthquakes with magnitudes > 6.5 and ≤ 8.0 , the highest correlation coefficient of the formula was 0.822, which was statistically significant. For the whole earthquake case, the correlation coefficient of the ancient and modern disaster aggregation model was 0.488.

Discussion & Conclusions

For earthquakes with magnitudes > 6.5 and ≤ 8.0 , the Chinese ancient and modern disaster summary formula has the best prediction degree and the highest accuracy. For earthquakes with magnitudes ≤ 6.5 and > 8.0 , the included formulas cannot precisely predict the number of earthquake death.

Trial Registration / Funding Information (only) :

Trial Registration No patients involved. Funding This work was financially supported by the Strategic Leading Science and Technology Project of the Chinese Academy of Sciences (XDA23090502).

#22915 : Antibiotic prescribing and outcomes in cancer patients with febrile neutropenia in the emergency department**Authors:**

Olivier Peyrony (1), Camille Gerlier (2), Imola Barla (3), Jessica Ellouze (4), Léa Legay (4), Elie Azoulay (5), Sylvie Chevret (6), Jean-Paul Fontaine (7)

1. Emergency Department, Hôpital Saint-Louis, AP-HP, Paris, France
2. Emergency Department, Hôpital Saint-Joseph, Paris, France
3. Emergency Department, Centre hospitalier régional universitaire d'Angers, Angers, France
4. Service des Urgences, Hôpital Saint-Louis, Paris, France
5. Intensive Care Unit, Hôpital Saint-Louis, APHP, Université Paris Diderot, Paris, France
6. Biostatistics Department, Hôpital Saint-Louis, APHP, Université Paris Diderot, Paris, France
7. Emergency Department, Hôpital Saint-Louis, APHP, Paris, France

Keywords: cancer, febrile neutropenia, emergency department, antibiotics

Abstract :**Introduction**

The benefit of reducing the time of antibiotic initiation in the emergency department (ED) for neutropenic patients is controversial and the research on the impact of antibiotic adherence to international guidelines in the ED is scarce. We aimed to investigate the effect of antibiotic timing and appropriateness on outcomes in patients with febrile neutropenia (FN) and to assess the performance of the MASCC risk-index to risk-stratify such patients in the ED.

Methods

We prospectively identified patients with FN who presented to our ED and assessed their Multinational Association of Supportive Care in Cancer (MASCC) risk-index. The time to parenteral antibiotic initiation and the appropriateness of the antibiotic regimen according to international guidelines were retrospectively abstracted. The performance of the MASCC risk-index in predicting the absence of complication was assessed with sensitivity, specificity and the area under the receiver operating characteristics curve (AUC). We investigated the effect of the time to antibiotic initiation and the appropriateness of the antibiotic regimen on the outcome (ICU admission or death) by logistic regression analyses. The study was approved by the "Comité d'Evaluation de l'Ethique des projets de Recherche Biomédicale (CEERB) Paris Nord" (Institutional Review Board -IRB 00006477- of HUPNVS, Paris 7 University, AP-HP)—number 2019–008.

Results

We included 249 patients. Median age was 60 years and 67.9% had hematological malignancies, 26 (10.4%) were admitted to the ICU and 23 (9.8%) died during hospital stay. Among the 173 patients at low risk according to the MASCC risk-index, 56 (32.4%) presented at least one complication including 11 deaths. The MASCC risk-index had a sensitivity and a specificity of 0.78% and 0.43%, respectively, in predicting the absence of complication and the AUC was 0.67. The time to antibiotic initiation in the ED was not associated with the outcome after adjusting for performance status and shock-index. Conversely, an inadequate ED antibiotic regimen was associated with higher ICU admission or death during hospital stay (OR = 3.50; 95% CI = 1.49 to 8.28).

Conclusion

An inadequate ED antibiotic regimen in patients with FN was significantly associated with higher ICU admission or death during hospital stay.

Trial Registration / Funding Information (only) :

Study This study did not receive any specific funding

#22916 : The number of emergency department males with urinary tract infections increases markedly in older age.

Authors:

Michelle Bakardjiev (1), Barnet Eskin (1), John Allegra (1)

1. Emergency Medicine, Morristown Medical Center, Morristown, USA

Keywords: Older age, males, urinary tract infection, emergency department.

Abstract :

The Number of Emergency Department Males with Urinary Tract Infections Increases Markedly in Older Age

M Bakardjiev MD, B Eskin MD, PhD, J R Allegra MD, PhD

Study Objective: The development of enlarged prostates in older males is a known risk factor for urinary tract infections (UTIs), so we would expect that UTIs are more likely as men reach older ages. Our goal was to determine the magnitude of this effect in a large database of emergency department (ED) visits.

Method: Design: Multi center retrospective cohort. Setting: Six New Jersey suburban EDs with annual visits from 26,000 to 97,000. Population: Consecutive patients seen by ED physicians from 1/1/2012 to 9/30/2018. Protocol: We found UTI visits using the International Classification of Diseases codes. Data Analysis: We computed the number of male patients with UTIs for each decade of life. We tested for non-uniformity in number of visits by decade using Chi-square. We then calculated the ratio of the number of males with UTIs for the decades with the highest and lowest number along with the 95% confidence interval (CI) of the ratio.

Results: Of the 2,717,606 total patients, 84,171 had a UTI diagnosis. Of these, 17,794 (21%) were male. The median age of the male UTI patients was 70 years (interquartile range 53–82 years). There was non-uniformity in the number of male UTI visits by decade of life ($p < 0.0001$). The number increases markedly starting in the sixth decade of life. The number of males with UTIs was highest in the ninth decade (4078) and lowest (267) in the second decade of life. The ratio of these numbers is 15.3 (95% CI: 13.5 to 17.3, $p < 0.0001$).

Conclusion: We found that the number of UTIs for males is markedly higher in older age groups. This suggests that ED physicians should be particularly vigilant in investigating for possible UTIs in older men, starting in the sixth decade of life.

#22917 : EPICANCER – Cancer patients presenting to the emergency departments in France: a prospective nationwide study

Authors:

Olivier Peyrony (1), Jean-Paul Fontaine (1), Sébastien Beaune (2), Abdo Khoury (3), Jennifer Truchot (4), Frédéric Balen (5), Rishad Vally (6), Jacques Schmitt (7), Kasarra Ben Hammouda (8), Mélanie Roussel (9), Céline Borzymowski (10), Cécile Vallot (11), Véronique Sanh (12), Elie Azoulay (13), Sylvie Chevret (14)

1. Emergency Department, Hôpital Saint-Louis, APHP, Paris, France
2. Emergency Department, Hôpital Ambroise Paré, AP-HP, Boulogne, France
3. Emergency Department, Hôpital Universitaire de Besançon, Besançon, France
4. Emergency Department, Hôpital Lariboisière, AP-HP, Paris, France
5. Emergency Department, Hôpital Universitaire de Toulouse, Toulouse, France
6. Emergency Department, Hôpital Pellegrin, Bordeaux, France
7. Emergency Department, Hôpital de Mulhouse, Mulhouse, France
8. Emergency Department, Hôpitaux Civils de Colmar, Colmar, France
9. Emergency Department, Hôpital Universitaire de Rouen, Rouen, France
10. Emergency Department, Hôpital Jean Bernard, Valenciennes, France
11. Emergency Department, Hôpital Annecy Genevois, Annecy, France
12. Emergency Department, Hôpital René Dubos, Pontoise, France
13. Intensive Care Unit, Hôpital Saint-Louis, APHP, Université Paris Diderot, Paris, France
14. Biostatistics Department, Hôpital Saint-Louis, APHP, Université Paris Diderot, Paris, France

Keywords: Cancer, emergency department, France, epidemiology

Abstract :**Introduction**

Cancer patients are likely to use emergency care resources for medical complications that may occur during or after cancer therapy. We aimed to estimate the prevalence of cancer patients that present to the Emergency Departments (EDs) in France, report their chief complaint, describe their characteristics and identify predictors of 30-day mortality.

Methods Cross-sectional, prospective study during three consecutive days in 138 EDs. All consecutive patients with cancer were included. Estimation of cancer patients' prevalence, identification of main reasons to attend ED, and predictors of 30-day mortality for patients admitted to the hospital after ED presentation. The study was approved by the Institutional Review Board of the French Speaking society for respiratory medicine – Société de Pneumologie de Langue Française (number CEPRO 2017-038).

Results A total of 1,380 cancer patients were included. Prevalence was 2.8%. The most frequent reasons patients sought ED care were fatigue (16.6%), dyspnea (16.3%), gastro-intestinal symptoms (15.1%), trauma (13.0%), fever (12.5%) and neurological disorders (12.5%). Patients were admitted to the hospital in 64.9% of the cases, of whom 13.4% died at day 30. Variables independently associated with higher in-hospital mortality at day 30 were male gender [OR, 1.67; 95% CI, 1.07-2.60], poor performance status [OR, 3.40; 95% CI, 2.15-5.38], solid [OR, 3.15; 95% CI, 1.30-7.61] or uncontrolled malignancy [OR, 2.25; 95% CI, 1.35-3.73], ED attendance for a neurological disorder [OR, 2.13; 95% CI, 1.23-3.69], high shock-index [OR, 1.76; 95% CI, 1.02-3.05] or oxygen therapy [OR, 2.55; 95% CI, 1.61-4.05].

Conclusion

This large prospective nationwide study about cancer patients seeking emergency care, representing 3% of total ED

attendance, shows high need for hospitalization and case fatality. Malignancy and general health status both play a major role in patient outcomes, and should be taken into account by emergency physicians in adapting the level of care.

Trial Registration / Funding Information (only) :

The study was registered in ClinicalTrials.gov (NCT03393260). This study did not receive any specific funding.

#22918 : High sensitivity troponin T and conventional troponin T in predicting 30-day and 1-year MACE among patients with suspected acute coronary syndrome in the emergency department**Authors:**

Ziwei Lin (1), Swee Han Lim (2), Carol Tan (3), Yiong Huak Chan (4), Hung Chew Wong (5), Terrance Chua (6), Arthur Richards (7)

1. , , Singapore, Singapore

2. Department of Emergency Medicine, Singapore General Hospital, Singapore, Singapore

3. Department of Clinical Biochemistry, Singapore General Hospital, Singapore, Singapore

4. Biostatistics Unit, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

5. Biostatistics Unit, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

6. Department of Cardiology, National Heart Centre, Singapore, Singapore

7. Cardiovascular Research Institute, Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

Keywords: troponin, major adverse cardiac events, myocardial infarction

Abstract :**Introduction:**

Elevated troponin levels may be prognostic in predicting major adverse cardiac events (MACE) in patients being evaluated for chest pain. While high sensitive assays have been shown to be superior to conventional troponin assays at predicting long-term MACE, there is a paucity of evidence regarding exact cut-offs. This study aims to compare the utility of high sensitivity troponin T (hsTnT) and conventional troponin T (cTnT) for predicting 30-day and 1-year MACE, as well as to suggest cut-offs for hsTnT to prognosticate patients with chest pain at the emergency department (ED) for 30-day and 1-year MACE.

Methods:

This is a prospective observational study involving patients 21 years of age or older presenting with symptoms suggestive of ACS from March 2010 to April 2013 to the ED of Singapore General Hospital, who were admitted under the Emergency Cardiac Care Unit (ECCU) in the ED's observation unit. Patients with ST-elevation myocardial infarction at ED, end-stage renal failure, who were pregnant, and who had unknown outcomes, were excluded. Patients were recruited by convenience sampling on weekdays. Serum hsTnT (Roche Diagnostics, Elecsys Troponin T high sensitive) levels were taken at 0, 2, and 7 hours from presentation as part of clinical care. Additional blood was collected which was centrifuged on-site and stored at -80 degrees Celsius until utilized for cTnT measurement (Roche Elecsys 4th Generation). Patients were followed up for a year. The primary outcome was 30-day MACE and secondary outcome was 1-year MACE. MACE was defined as cardiac death, ventricular fibrillation, myocardial infarction, critical stenosis found on coronary angiogram, or emergency cardiac revascularisation procedures.

Results:

There were 1023 patients included, 697 male (68.1%), with a median age of 56 years (Interquartile range 48 to 63 years). A total of 68 (6.65%) patients had 30-day MACE, while 96 (9.38%) patients had 1-year MACE. The c-statistic for hsTnT was consistently higher than cTnT for both 30-day and 1-year MACE. For 30-day MACE, the c-statistic was 0.64 (95% confidence interval [CI] 0.56 to 0.73) for 0-hour cTnT and 0.75 (95% CI 0.67 to 0.82) for hsTnT ($p=0.068$). For 1-year MACE, the c-statistic for 0-hour cTnT was 0.60 (95% CI 0.53 to 0.67) and 0.71 (95% CI 0.65 to 0.78) for 0-hour hsTnT ($p=0.018$). For the outcome of 30-day MACE, the optimal cut-off level calculated by Youden index for 0-hour hsTnT was $\geq 16\text{ng/L}$, with a sensitivity of 54.1%, specificity of 92.6%, positive predictive value (PPV) of 34.0%, and negative predictive value (NPV) of 96.6%. For 1-year MACE, the optimal cut-off for 0-hour hsTnT was also $\geq 16\text{ng/L}$, with a sensitivity of 44.8%, specificity of 93.1%, PPV of 40.2%, and NPV of 94.2%. A cut-off of 0 hour and 2 hour hsTnT $< 16\text{ng/L}$ was able to rule out 30-day MACE with a NPV of 97.0% and 1-year MACE with a NPV of 94.5%.

Discussion and Conclusions:

hsTnT was found to better prognosticate 30-day and 1-year MACE as compared to cTnT. hsTnT taken at presentation may have a role in prognosticating MACE post index visit even up to 1 year.

Trial Registration / Funding Information (only) :

This study was funded by the SingHealth Foundation Research grant and National University of Singapore. Assay provision for this study was provided by Roche Diagnostics.

#22922 : Assessment of the influence of air pollutants on the number of Emergency Department visits due to asthma exacerbation in a small city**Authors:**

Raul Lopez Izquierdo (1), Cerezo-Hernandez Ana (2), Daniel Alvarez (3), Moreno Fernando (4), Del Campo Felix (2), Virginia Carbajosa Rodriguez (5), Jesus Angel Moche Loeri (5), Jesus Alvarez Manzanares (5), Susana Sanchez Ramón (6), Iaura Fadrique Millan (5), Inmaculada Garcia Ruperez (6), Henar Bergaz Díez (5), Irene Cebrian Ruiz (5), Isabel Gonzalez Manzano (6), Samsara Lopez (6), M^a Antonia Udaondo Cascante (7), Francisco Martin Rodriguez (8)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Pneumology Service, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
3. Pneumology department, Río Hortega University Hospital, Valladolid, Spain
4. Pneumology Service, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
5. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
6. Emergency Department, Hospital Universitario Río Hortega. Valladolid, Valladolid, Spain
7. Radiology department, University Hospital of Burgos, Burgos, Spain
8. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain

Keywords: Emergency, Asthma, pollutants

Abstract :

Background. The link between increased air pollutant levels and worsening of chronic respiratory diseases is widely known. Particularly, asthma exacerbation is among the most established associations between air quality and disease, responsible of a number of outpatient visits and hospital admissions every year. Nevertheless, most of the studies in this context focus on big cities with great pollution while the influence of lower pollutant levels is scarcely investigated.

Aim. Assessing the influence of air pollution levels on the number of Emergency Department (ED) visits due to asthma exacerbation in Valladolid, a small city in Spain.

Material and methods. ED visits due to asthma worsening were collected from January 2010 to December 2018 in the Río Hortega University Hospital of Valladolid (Spain). Air pollutants (NO, NO₂, CO, O₃, PM₁₀, PM_{2.5}) were obtained from the monitoring stations of the Valladolid City Council. Temperature and rainfall were included in the study as potential confounding factors. The association between each pollutant and the number of ED visits was analyzed using linear regression with Poisson distribution. In order to assess the potential delayed influence of pollution, both daily values and the peak value within four time-lags prior exacerbation (0, 1, 3, and 7 days) were used to characterize air quality.

Results. A total of 2527 visits from 1588 patients were collected. By means of univariate analyses, temperature and month raised as confounding factors. Accordingly, using them as covariates, statistically significant association with ED visits was found for particulate matter with a diameter less than 2.5 micrometers (PM_{2.5}: OR 1.006, 95%CI 1.000-1.011; *p* <0.05), nitrogen oxide (NO: OR 1.002, 95%CI 1.000-1.004; *p* <0.05), nitrogen dioxide (NO₂: 1.005, 95%CI 1.001-1.010; *p* <0.05), and ozone (O₃: OR 0.997, 95%CI 0.994-1.000; *p* <0.05). The pollutants reached its highest influence on different time lags. A time lag of 3 days maximizes the link between increased ED visits and NO₂(average value 3 days ago), NO and O₃ (peak value 3 days ago) while for PM_{2.5} the association was maximum considering the peak value 1 week ago.

Conclusion. Our findings suggested a connection between NO, NO₂, O₃, and PM_{2.5} levels within the last week and the number of ED visits due to asthma exacerbations. This association is also significant even in a small city with moderate pollutant levels.

Authors:

Asma Khalfallah (1)

1. Taher Sfar Mahdia, TUNISIA, ksouresssef, Tunisia

Keywords: pneumothoraxes , x-ray , TUBEROUS BOURNEVILLE SCLEROSIS

Abstract :

Introduction: Bourneville tuberous sclerosis (BTS) is a rare genetic disease with autosomal dominant transmission, it is also observed in sporadic forms in two thirds of cases. **Clinical case:** We report the case of a 39-year-old patient with a family history of epilepsy who was hospitalized in intensive care for a fully drained right pneumothorax and recurred 6 days later. The patient was operated in Cardiac and thoracic surgery of Charles Nicole by a pleurodesis of the right lung, a lung biopsy was done and showed a histological and immune histochemical aspect compatible with the diagnosis of lymphangiomyomatosis. Two months later, the patient consults our emergency departement with an acute respiratory failure chart. The diagnosis of complete left pneumothorax was retained with the placement of a chest drain and the patient was transferred to the cardiac and thoracic surgery of Chales Nicole department again for pleurodesis of the left lung. The somatic examination shows papular skin lesions on the face and anterior face of the neck, firstly evokes the diagnosis of Bourneville's Tuberous Sclerosis, given the family history of epilepsy. **Conclusion:** Bourneville's Tuberous Sclerosis is a rare disease characterized by clinical heterogeneity with various visceral manifestations. Identifying patients at risk for severe manifestations is crucial. A better understanding of the molecular anomalies caused by this disease could allow better management.

Authors:

Asma Khalfallah (1)

1. Taher Sfar Mahdia, TUNISIA, ksouresssef, Tunisia

Keywords: flecaine,INTOXICATION,suicide, arrhythmia

Abstract :

Introduction: the use of antiarrhythmic is not without risks, even at therapeutic doses. In the event of intoxication or overdose, the vital prognosis may be at stake. We report the case of voluntary intoxication with flecaine. **Clinical case :** K.A, 18 years old with no medical history, referred to the emergency department for acute intoxication by flecaine following a family conflict. The patient ingested 30 tablets of flecaine 100 mg , gastric lavage was done brought back white debris. On admission to the emergency department, the patient was conscious, hemodynamically stable and oxygen saturation is normal with blood pressure 100/60 mmHg, heart rate 84 beats per minute. The electrocardiogram showed a sinus rhythm with wide QRS, an elongated PR at 360 ms, a complete right branch block and an ascent of the J point. Biology was without abnormalities and the plasma determination of flecaine was not available. The patient was kept under close surveillance and received two 42% bicarbonate bottles of 500 ml and 2 g Mg² sulfate in IVL. The evolution was marked by the normalization of the electrocardiogram after 48 h and the patient was hospitalized in the cardiology department with good progress. **Conclusion:**

Flecaine intoxication is serious and can be life-threatening and treatment remains symptomatic.

#22926 : Confusing renal colic

Authors:

Asma Khalfallah (1)

1. Taher Sfar Mahdia, TUNISIA, ksouressef, Tunisia

Keywords: anyvrism , aorta , infractus, renal**Abstract :**

· Introduction: The renal infarction is a rare pathology which must be evoked in front of any lumbar pain syndrome. The most frequent causes are related to an embologenic cardiac pathology, a fibrodysplasia of the renal artery or a trauma

· Clinical case: Mr M.K, 52 years old, with no previous history, consults the emergency department for continuous left lumbar pain for an hour with a stable wound associated with nausea without vomiting. It was apyretic, saturates properly at ambient air, heart rate 120 beats per minute ,blood pressure at 170/100mmHg, EVA = 10. The diagnosis of renal colic is mentioned since admission, a biological assessment is implemented with symptomatic treatment. On the examination table, the patient presented a generalized tonicoclonic crisis.

Faced with non-improvement, a bedside abdominal ultrasound done by an emergency physician showed an enlarged abdominal aorta with a diameter = 6.19 cm with an endoluminal thrombus. Patient was admitted to the ICU with monitoring, scoping, placement of two peripheral routes, and put on antihypertensive IV and curative heparin therapy. A CT scan supplement was requested confirming the diagnosis of an abdominal aortic aneurysm with the presence of left renal infarction. Renal infarction is explained by migration of a microthrombus to the left renal artery, similarly the convulsive crisis can be explained by the thromboembolic phenomenon.

· Conclusion: In front of low back pain in an adult subject we must eliminate a vascular cause in the first place

#22928 : Immediate Care on Marine Medicine as newly developed education course for medical care in Oceanography**Authors:**

Mizuho Ii (1), Hiroshi Okudera (2), Masahiro Wakasugi (3), Tomomi Yasuda (4)

1. Assistant Professor, Department of Nursing, Graduate School of Medicine and Pharmaceutical Science, University of Toyama, TOYAMA, Japan
2. Professor, Department of Crisis Medicine and Patient Safety, Graduate School of Medicine and Pharmaceutical Science, University of Toyama, TOYAMA, Japan
3. Associate Professor, Department of Crisis Medicine and Patient Safety, Graduate School of Medicine and Pharmaceutical Science, University of Toyama, TOYAMA, Japan
4. Professor, Department of Nursing, Graduate School of Medicine and Pharmaceutical Science, University of Toyama, TOYAMA, Japan

Keywords: education training oceanography Immediate Care on Marine Medicine

Abstract :**Introduction**

We reported the "Development of the Education Course on Marine Medicine" at EUSEM 2019. We present the early results and following discussion of the Education Course on Marine Medicine, which termed Immediate Care on Marine Medicine (ICMM). This course is designed for a wide range of marine sports occupations, such as doctors, diving instructors, and rescue crews, to teach basic knowledge of underwater medicine to medical staff to provide necessary first aid.

Material and Method

A questionnaire survey was conducted before and after attending the two ICMM courses participants held in 2018 and 2019. The course consists of 6 module lectures at 4 hours plus BLS (Basic Life Support). These lectures include "Basic knowledge of diving medicine", "diving and emergency disease", "problems about diving appropriateness", "marine bite and sting", "marine bacteria and wound infection", "BLS · AED(Automated External Defibrillator)" Furthermore, we analyzed free description of each participant using Text Mining Studio (NTT DATA) with Artificial Intelligence to improve details of the course.

Result

Among 54 subjects, there were 22 physicians (40.7%), 16 diving instructors (29.6%), 9 fire and ambulance crews (16.7%), 3 nurses (5.5%), 3 rescue crews (5.5%). Diving instructors and water rescue crews have some knowledge before attending and could positively respond after the course. Although there was a difference in knowledge before joining occupations, certain learning effects were observed in all occupations. Analysis of each participant's feedback using text mining revealed that the most frequently used words were "ocean," "diving," "decompression disease," and "hyperbaric." Regarding the content of the ICMM, we will continuously conduct self-evaluation based on feedback analysis and questionnaire to improve Kirkpatrick's evaluation level.

#22930 : Pre-emptive remifentanil prevents pain associated with tracheal suctioning in patients receiving goal-directed sedation under mechanical ventilation: a randomized controlled feasibility trial

Authors:

Peng Deng (1), Cao Yu (1), Yao Rong (1)

1. Department of Emergency Medicine, West China Hospital of Sichuan University, Chengdu, China

Keywords: pain; tracheal suctioning; analgesia; sedation

Abstract :

Objectives: Goal-directed sedation is recommended for patients in intensive care units. Literature regarding whether goal-directed sedation management may prevent pain associated with tracheal suctioning in patients receiving mechanical ventilation is scarce. This study aims to compare three groups in terms of their changes in pain score from tracheal suctioning after goal-directed sedation management.

Methods: This study was a bicenter, randomized, self-crossover control, single-blind trial comparing a placebo group, a low-dose remifentanil group and a high-dose remifentanil group. After goal-directed sedation management, 39 patients with mechanical ventilation underwent received 3 pairs of low-dose remifentanil (0.5 µg/kg), high-dose remifentanil (1.0 µg/kg) and a placebo (2-mL normal saline) as pre-emptive analgesia prior to each tracheal suctioning procedure in a random order. The interval for each tracheal suctioning procedure was at least 100 min. The primary indicators observed after tracheal suctioning were comprised of the changes of critical care pain observation tool score (CPOT) and richmond agitation-sedation scale (RASS). The effect of tracheal suctioning was assessed according to the changes of oxygen saturation in arterial blood (SpO₂). Safety was evaluated by determining the frequency of adverse events.

Results: Based on the research outcomes, it could be seen that both the changes of CPOT and RASS scores in low-dose group and high-dose group were significantly lower than that in placebo group. According to the intragroup comparisons, the CPOT score was higher after the procedure than before in the placebo group, while no significant differences were observed in the low-dose and high-dose groups. An increasing trend in regard to the absence of spontaneous breathing was observed in high-dose group than that in placebo group. Besides, no significant differences were observed among these three groups for the changes of SpO₂.

Discussion: Normal opioid doses administered for goal-directed sedation management are insufficient in preventing pain associated with tracheal suctioning in patients under mechanical ventilation. A pre-emptive remifentanil bolus of 0.5 µg/kg for patients was found to mitigate pain associated with tracheal suctioning in this study.

Key words: pain; tracheal suctioning; analgesia; sedation

Trial Registration / Funding Information (only) :

ChiCTR, ChiCTR1900021380,Registered 17 February 2019,<http://www.chictr.org.cn/edit.aspx?pid=36100&htm=4>

#22932 : Development and validation a nomogram for early predicting the risk of severe Coronavirus Disease 2019 : A multi-center study in Sichuan, China

Authors:

Zhou Yiwu (1), Rong Yao (2)

1. , West China Hospital, Sichuan University, Chengdu, China

2. Emergency Department of West China Hospital, Sichuan University, Sichuan University, Chengdu, China

Keywords: Coronavirus Disease 2019, nomogram, severity, prediction

Abstract :

Objective: To build and validate a practical nomogram for estimating the probability of coronavirus disease 2019 (COVID-19) patients developing severe disease. **Methods:** A total cohort comprised 366 patients of laboratory-confirmed COVID-19 were used for developing prediction model, with data gathered from 47 sites between January 2020 to February 2020 in Sichuan, China. The primary outcome was the severe disease of COVID-19 occurring during hospitalization. The least absolute shrinkage and selection operator (LASSO) regression model was used data dimension reduction and feature selection. Multivariable logistic regression analysis was applied to build a predicting model incorporating the feature selected in the LASSO regression model. The performance of the nomogram was assessed with respect to the C-index, calibration, discrimination, and clinical usefulness. Internal validation was assessed using the bootstrapping validation. **Results:** The median age of the patients was 43 years. 43 patients reached the primary outcome, which were older than non-severe COVID-19 patients by a median 6 years. Fever, cough, and dyspnea were more common among severe patients. The individualized prediction nomogram included 7 predictors, including temperature at admission, cough, dyspnea, hypertension, cardiovascular system disease, chronic liver disease, chronic kidney disease. The model displayed good discrimination with area under the curve (AUC) of 0.862, a C-index of 0.863 (95% confidence interval: 0.801-0.925) and good calibration. High C-index value of 0.839 could still be reached in the interval validation. Decision curve analysis showed that the prediction nomogram was clinically useful. **Conclusion** We established an early warning model incorporating clinical characteristics which could be quickly obtained at the time of patient consultation. Our model could be conveniently used to facilitate the individual severe risk prediction in COVID-19 patients, and help identify patients who might develop severe disease at early stage with convenience.

Trial Registration / Funding Information (only) :

Department of Science and Technology of Sichuan Province (2020YFS0009)

#22933 : Progressive epigastric pain in a cachectic cancer patient

Authors:

Chen Shiang-Jin (1)

1. Department of Emergency Medicine, Kaohsiung Medical University Chung-Ho Memorial Hospital, Kaohsiung, Taiwan, China

Keywords: Superior mesenteric artery syndrome

Ultrasound

Patient images are involved and I have adequate permission to use them

Abstract :

Title: Progressive epigastric pain in a cachectic cancer patient

Chen, Shiang-Jin

Brief clinical details : A 39-year-old cachectic men with tongue cancer with multiple organ metastasis was admitted to the Emergency Department due to progressive epigastric pain

Physical examination: abdominal distension and high-pitched bowel sounds

Laboratory data: Anemia(Hb:10 g/dL), Electrolyte abnormalities (Na:135 mmol/L and K:3.0 mmol/L)

※Imaging:

(A) Plain abdominal films : Suspect proximal small bowel obstruction

(B) Transabdominal ultrasonography:

The duodenum can be seen narrowing as it approaches the aorta where it is compressed between the aorta and the SMA.

(C) Sagittal ultrasonography :SMA-aortic angle of 7° (yellow constructed angle).

(D) Abdominal CT: Duodenal obstruction with an abrupt cutoff in the third portion

※Question:What possible diagnosis?

※Answers: Superior mesenteric artery syndrome

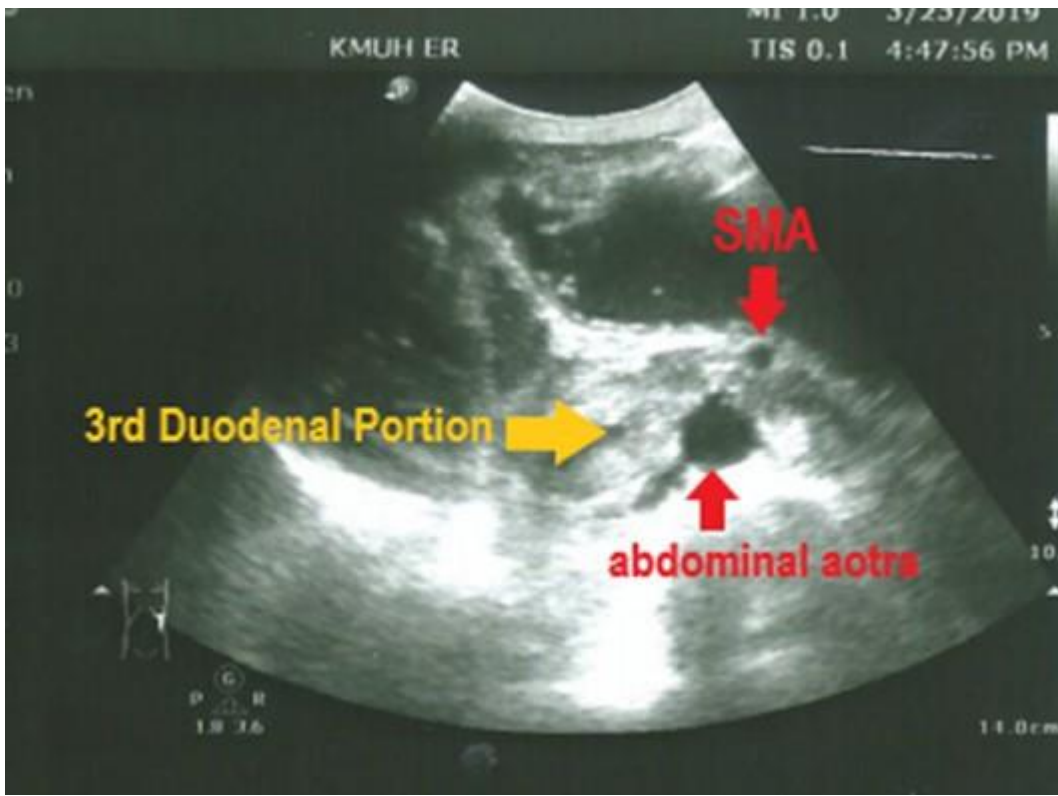
※Discussion:

Superior mesenteric artery syndrome(SMA) is an unusual cause of proximal intestinal obstruction resulting from compression of the third portion of the duodenum by the superior mesenteric artery and aorta, primarily attributed to loss of the intervening mesenteric fat pad. Ultrasound is one of the diagnostic tool which can measure the aortomesenteric angle. A normal angle should be between 38 and 65°. An aortomesenteric artery angle of $\leq 25^\circ$ is the most sensitive measure of diagnosis. A study revealed that ultrasonography and CT examinations gave overlapping results in diagnosing pathological aorto-mesenteric angle.(J Intern Med. 2005 Apr;257(4):346-51)

※Take home points:

1. SMA syndrome is a not-to-be-missed cause of intestinal obstruction in cancer patients with cachexia.

2. Ultrasound is a noninvasive and low cost method to evaluate the aortomesenteric angle to diagnose suspected cases of SMA syndrome, especially when plain films suggestive of proximal small bowel obstruction.



Attachment: imagine case.docx

#22934 : Spontaneous coronary artery dissection in EMS

Authors:

Ondrej Felix (1)

1. EMD, ZZS HMP, Prague, Czech Republic

Keywords: coronary artery dissection disappearing ST-Elevation

Abstract :

A 40-years-old thin woman presented with 30 minutes acute retrosternal burning pain. She was in good condition without pain radiation or breathing problems. Her only symptom was, the worsening pain behind sternum, which began 2 days ago. In the first 4-lead Electrocardiogram was an ST-segment 0,8mV elevation in the II, III, aVF leads. As a next step we proceed a 12-lead Electrocardiogram. The result was also ST-Elevation in V1-V3 leads. But in this Electrocardiogram shows the ST-Elevation only 0,6mV. The patient felt reduction of the pain during this examination and she was completely asymptotic. She was treated with heparin and after 10 minutes we repeated the 12-lead Electrocardiogram. Here were any pathological signs shown and the ST segment was isoelectrial. In past medical history was a hereditary joint disease with intermittent Corticoide Therapy.

The patient was transported after brief consultation with cardio center to emergency department as suspect acute myocarditis. The 12-lead Electrocardiogram and stand-by Echocardiography were without pathological signs during the admission. The bedside troponin was on level 1,5ug/l (norm < 0,027 ug/l). Next day a Cardiac catheterization was executed. The intervention revealed the spontaneous coronary artery dissection, which was treated.

Misleading elements: The patient was almost asymptomatic and the last ECG was without pathological signs. Because of the hereditary joint disease was the Myocarditis as lead diagnosis.

Helpful details: The corticoid therapy is a significant cause of spontaneous artery dissection. This therapy in combination with disappearing ST-Elevation should lead us to right diagnoses.

Differential Diagnosis: Myocarditis. Endocarditis, Myocardinfraction

Educational relevance: Second 12-lead EKG is good procedure by diagnostic of almost asymptomatic patients. By disappearing of ST-Elevation in combination with corticoid therapy should be considered a spontaneous coronary dissecion as a main diagnosis.

Authors:

Wu Chien Chao (1)

1. , , Kaohsiung, Taiwan, China

Abstract :

Purpose: This project uses the flexible scheduling of nursing manpower and consensus of the hospital team to reduce the boarding time of emergency patients to facilitate, after consultation, patients' inspection, examination, and treatment in a timely manner, as well as allocation and transfer to inpatient beds as soon as possible. Further, the project aims to reduce patient congestion in the emergency department and improve the quality of medical care in the unit.

Methods: After confirming the problem through analysis of the current situation, the improvement measures implemented through the project are: (1) Change the bed allocation mechanism of the ward and formulate the hospital bed flow specification; (2) Provide the patient with the option to be transferred to another hospital for continued treatment; (3) Develop a nursing support mechanism for the whole hospital; (4) Increase the availability of business phone for staff. These measures should achieve improvement in service quality. This project promotes cross-unit and cross-team cooperation in the hospital; in addition to the nursing staff of the unit, physicians, Transporter, nursing department, medical affairs room, information technology office, and system hospitals are involved.

Results: The rate of patients required to be allocated a bed for more than 48 hours decreased from 2.4% in July 2018 to 1.1% in February 2019, effectively changing the ward and referral mechanisms by reducing patients' boarding time, thereby reducing the snowball effect caused by the retention of emergency patients. The relative reduction of routine medical treatment not only reduces the workload of the nursing staff, but also has the additional benefit of reducing nursing labor costs.

Conclusion: The emergency diagnosis and treatment space is limited. In the face of congestion of emergency patients, the emergency department of this hospital looks forward to establishing an effective and smooth referral system with various medical institutions to provide patients with peace of mind and continuous medical care.

#22936 : Social Distancing due to the COVID-19 Pandemic: Effects of Non-Urgent Emergency Department Visits

Authors:

Saban Mor (1), Aziz Darawsha (2)

1. , University of Haifa, Haifa, Israel

2. , Rambam Health Care Campus, Haifa, Israel

Keywords: COVID-19, Pandemic, Emergency department, Non-urgent visit.

Abstract :

Background: An outbreak of the novel coronavirus (COVID-19) that started in Wuhan, China, has spread quickly, with cases confirmed in 163 countries with broad impact on all health care systems. The previous 1918-19 H1N1 influenza pandemic was the last global emerging infectious disease at such scale to compare with no access to vaccines. In that pandemic as in the current, some communities responded with a variety of non-pharmaceutical interventions, especially social distancing. These types of intervention have a comprehensive effect on health care service consumption.

Methodology: This study describes and proposes possible explanations for the effects of non-pharmaceutical interventions on Emergency Department (ED) non urgent visits.

Results: Indirectly, the COVID-19 pandemic has led to a more informed emergency service use that allows ED's to fulfill their defined role, providing urgent service. Currently, this is of utmost importance given the rate of virus spreading, and rise in the proportion of patients requiring intensive care in the ED. This is undoubtedly a by-product of an international disaster.

Conclusion: At the end of the pandemic, similar elements may be implemented to reduce unnecessary ED inquiries.

#22938 : Veno-venous extracorporeal membrane oxygenation for life-threatening isolated pulmonary anti-GBM disease

Authors:

Shogo Goda (1)

1. Emergency and Acute care medicine, Sapporo East Tokushukai Hospital, Sapporo city, Japan

Keywords: Veno-venous extracorporeal membrane oxygenation, anti-GBM disease

Abstract :

Anti-glomerular basement membrane disease (anti-GBM disease) associated with renal and lung lesions has a poor prognosis. Diffuse alveolar hemorrhage (DAH) is a complication that worsens anti-GBM disease prognosis. We report a rescue case using veno-venous ECMO (VV-ECMO) for diffuse alveolar hemorrhage due to isolated pulmonary anti-GBM disease; a rare anti-GBM syndrome. A 30-year-old Japanese female with no past medical history. Presented with acute hypoxemic respiratory failure requiring ventilator management. Progressive deterioration and refractory hypoxemia prompted therapy with VV-ECMO. Serum anti-GBM antibody confirmed the diagnosis of anti-GBM disease. Multi-modal systemic therapy with pulse-dosed methylprednisolone, plasma exchange, and rituximab resulted in significant clinical improvement. VV-ECMO for 10 days was uncomplicated. Renal replacement therapy was not required. The patient was extubated on day 18 and discharged from the hospital after 45 days. VV-ECMO supportive therapy for DAH with refractory respiratory failure was demonstrated to be effective pending definitive diagnostic and therapeutic management in this case of isolated pulmonary anti-GBM disease.

#22939 : A retrospective analysis to compare five ways on predicting pre-hospital mortality among adult victims in earthquake

Authors:

Aoyu Wang (1), Mengjiao Tao (1), Hai Hu (2)

1. West China School of Medicine, Sichuan University, Chengdu, China, none, Chengdu, China
2. China International Emergency Medical Team (Sichuan) , Chengdu, China, none, Chengdu, China

Keywords: Triage methods, Earthquake, Severity index

Abstract :**Background**

When natural disasters like earthquakes occur, facing with a huge number of patients, rescuers need to divide patients into different types according to the severity of their injuries to improve rescue efficiency and reduce casualties. At present, there are several triage methods being widely used all over the world such as START triage method (START), Sacco triage method (STM), Prehospital Index (PHI), CRAMS (Circulation, Respiration, Abdomen, Motor, and Speech) and Injury Severity Score (ISS). However, which one of them is the most accurate for adult patients, has not been proved yet.

Methods

A retrospective study was conducted on 21985 cases of adult patients whose age was between 18 and 65 from the Earthquake Casualty Database of West China Hospital of Sichuan University. Every patient was assigned to different triage scores by START, STM, PHI, CRAMS and ISS individually. All of the triage methods were evaluated based on cases of death with receiver-operator curve (ROC) using Medcalc version 18.11.3.

Results

For death cases, the AUC of START, STM, PHI, CRAMS and ISS reflected as 0.754(95% confidence interval 0.749 to 0.760), 0.874(95% confidence interval 0.869 to 0.878), 0.877(95% confidence interval 0.872 to 0.881) , 0.867(95% confidence interval 0.863 to 0.872) and 0.535(95% confidence interval 0.528 to 0.541). P value of each group reflected as 0.0255, 0.0209, 0.0199, 0.0235 and 0.0308.

Discussion & Conclusions

For adult patients, all the five triage methods were statistically significant in predicting death cases in mass casualty incident. STM, PHI, and CRAMS were more accurate compared with START and ISS. And above these five triage methods, PHI has the best predictive power for death.

Trial Registration / Funding Information (only) :

Trial Registration Non clinical work. Funding This work was financially supported by the Strategic Leading Science and Technology Project of the Chinese Academy of Sciences (XDA23090502).

#22940 : Sedation for forearm fracture reduction in the Pediatric Emergency Department. Impact on length of stay and hospitalization

Authors:

Maali Abu Omer (1), Gilad Chayen (2), Ron Jacob (2)

1. Department of Pediatrics, HaEmek Medical Center, Afula, Israel

2. Pediatric Emergency Department, HaEmek Medical Center, Afula, Israel

Keywords: Forearm fracture, Length of stay, Sedation, Pediatric Emergency Department

Abstract :**Background**

Children with forearm fractures who present to the emergency department (ED) commonly need closed reduction which is a painful procedure. In recent years it has been performed safely and with no complications under sedation in the Pediatric ED.

In our institution, up until 2017, all pediatric trauma patients used to present to the general trauma ED where no sedation service for pediatric patients was available. Closed reductions were performed under general anesthesia in the operating rooms or with no sedation in the ED. From 2017, pediatric trauma patients presented to the Pediatric Emergency Department where all closed reductions were performed under sedation.

We aim to compare the length of stay (LOS) and hospitalization rates of pediatric patients who underwent a closed reduction for radial or ulnar fractures under sedation in the pediatric ED, versus pediatric patients with radial or ulnar fractures who presented to the general trauma ED and needed a closed reduction.

Methods

This was a retrospective observational study in a regional hospital serving northeastern Israel. The study population consisted of all patients younger than 18 years presenting to the emergency department with ulnar or radial fracture who needed a closed reduction. We compared the patients presenting to the general trauma ED between 1.1.15–30.6.16 and the patients presenting to the Pediatric ED between 1.1.18–30.6.19. Primary outcome measures were hospitalization rates and length of stay. Secondary outcome measure was the rate of analgesia provision.

Results

One hundred seventy-five patients with forearm fractures who needed a closed reduction were included in our study; 79 patients presented to the general trauma ED and 96 patients presented to the Pediatric ED. Median ED LOS was longer among patients undergoing procedural sedation in the pediatric ED compared to the general trauma ED (237 Vs 168 minutes respectively; $p < 0.0001$). Among patients who underwent closed reduction in the general trauma ED 52.9% were not treated with any analgesia. 23% underwent the procedure with hematoma block. In a sub-

analysis, there was not statistically significant difference in LOS between patients who underwent closed reduction with hematoma block in the general ED, compared to those who underwent closed reduction under sedation in the Pediatric ED. Hospitalization rate was lower for patients undergoing closed reduction under sedation in the pediatric ED compared to the general ED (6.3% and 21.5% respectively; $P=0.003$).

Conclusion

Sedation and appropriate analgesia have long become the standard of care for fracture reduction in the ED. Despite the need for more resources to perform procedural sedation in the Pediatric ED (staff, time and medications), patients who underwent closed forearm fracture reduction under sedation in the Pediatric ED, had only 69 minutes increase in LOS when compared to the general ED, where closed reduction was performed without sedation. Furthermore, sedation for closed forearm fracture reduction in the Pediatric ED was associated with more than 3 times decrease in hospitalization rate.

Our results could guide local policy makers with resource allocation.

#22941 : Emergency Department and patient characteristics and relevant clinical outcomes in different triage categories in three hospitals; an observational study using data from the Netherlands Emergency department Evaluation Database (NEED)

Authors:

Wouter RAVEN (1), Christine Roelofsen (2), Menno Gaakeer (3), Ter Avest Ewoud (4), Heleen Lameijer (5), Roger Hessels (6), Resi Reijnen (7), Erik van Zwet (8), Evert de Jonge (9), Bas de Groot (2)

1. Emergency Department, LUMC, LEIDEN, The Netherlands
2. Emergency Department, LUMC, Leiden, The Netherlands
3. Emergency Department, ADRZ Hospital, Goes, The Netherlands
4. Emergency Department, University Medical Centre Groningen, Groningen, The Netherlands
5. Emergency Department, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
6. Emergency Department, Elisabeth-Tweesteden Hospital, Tilburg, The Netherlands
7. Emergency Department, Haaglanden Medical Centre, The Hague, The Netherlands
8. Department of Biostatistics, LUMC, Leiden, The Netherlands
9. Department of Intensive Care, LUMC, Leiden, The Netherlands

Keywords: Emergency Department, characteristics, triage categories, benchmark, relevant clinical outcomes, Netherlands

Abstract :**Background**

Without data on characteristics and outcomes of care in Dutch emergency departments (EDs), quality of care is difficult to improve. As a first step towards appropriate benchmarking, ED and patient characteristics and relevant clinical outcomes were assessed in three EDs in The Netherlands. Because characteristics and outcomes were expected to depend on disease severity, ED visits were stratified by triage categories.

Methods

This was an observational multi-centre cohort study using all ED visits in the Netherlands Emergency department Evaluation Database (NEED), the Dutch quality registry for EDs. Patients were stratified by triage category; 'non-urgent' (blue&green), 'urgent' (yellow), 'very urgent' (orange) and 'immediate' (red). ED and patient characteristics and relevant clinical outcomes (ED length of stay (ED-LOS), disposition and in-hospital mortality) were assessed.

Results

172,104 consecutive ED visits were included. Incomplete or no vital sign registration was common in all triage categories, ranging between 87% (blue&green) and 45% (red) ($p < 0.001$). However, with increasing urgency more additional diagnostic tests were performed, i.e. radiology (48.9% (green) – 66.1% (red), $p < 0.001$), ECG (11.8 – 64.3), $p < 0.001$) and laboratory tests (34.9% - 89.6%), $p < 0.001$). The percentage of patients receiving >500ml crystalloids was below 10% in all categories, without showing a trend with increasing urgency ($p < 0.001$). In contrast, consultation with >2 specialists more than quadrupled in category 'red' (12.3%) compared to blue&green (2.4%, $p < 0.001$). Hospital admissions increased with disease severity from 19.8% (blue&green) to 74.7% (red) ($p < 0.001$), as did hospital mortality, from 0.5% (blue&green) to 14.2% (red) ($p < 0.001$). Median ED-LOS was similar in all categories; blue&green 2.2h (IQR 1.3-3.4), yellow 2.8h (1.9-3.9), orange 3.0h (2.2-4.0) and red 2.6h (1.8-3.4).

Conclusion

Measurement of characteristics and outcomes of ED care per triage category revealed incomplete measurement of vital signs and restrictive fluid administration even in ED patients with high urgency. Outcomes varied with triage category as expected. We therefore propose benchmarking EDs per triage category and recommend future studies to assess the association of ED and patient characteristics and relevant clinical outcomes per triage category.

#22943 : Independent determinants of emergency department length of stay in different triage categories: an observational study using the Netherlands Emergency department Evaluation Database (NEED) for benchmarking**Authors:**

Wouter RAVEN (1), Christine Roelofsen (2), Menno Gaakeer (3), Ter Avest Ewoud (4), Ozcan Sir (5), Heleen Lameijer (6), Roger Hessels (7), Resi Reijnen (8), Erik van Zwet (9), Evert de Jonge (10), Bas de Groot (2)

1. Emergency Department, LUMC, LEIDEN, The Netherlands
2. Emergency Department, LUMC, Leiden, The Netherlands
3. Emergency Department, ADRZ Hospital, Goes, The Netherlands
4. Emergency Department, University Medical Centre Groningen, Groningen, The Netherlands
5. Emergency Department, Radboud University Medical Centre, Nijmegen, The Netherlands
6. Emergency Department, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
7. Emergency Department, Elisabeth-Tweesteden Hospital, Tilburg, The Netherlands
8. Emergency Department, Haaglanden Medical Centre, The Hague, The Netherlands
9. Department of Biostatistics, LUMC, Leiden, The Netherlands
10. Department of Intensive Care, LUMC, Leiden, The Netherlands

Keywords: Independent determinants, Emergency Department length of stay, ED-LOS, triage categories, benchmark

Abstract :**Background**

Benchmarking is an important tool in quality improvement, but is hardly done in Dutch emergency departments (EDs). As “proof of principle” study, we assessed independent determinants, including ED location, of ED length of stay (LOS) >4 hours as one important aspect of quality of care. This was done per triage category because we assumed that benchmarking of EDs should be done per disease severity category.

Methods

An observational multi-centre study including all visits of three EDs in the Netherlands Emergency department Evaluation Database (NEED), the Dutch Quality registration for EDs. Patients were stratified by triage category; ‘non-urgent’ (blue&green), ‘urgent’ (yellow), ‘very urgent’ (orange) and ‘immediate’ (red). In every triage category, independent determinants (including ED location A, B, or C as potential determinant, with A being the reference) of ED-LOS >4hrs (primary outcome) were assessed using multi-variable logistic regression analysis.

Results

We included 172.104 ED visits. Independent determinants of ED-LOS >4hrs differed per triage category, with ED location being an independent determinant in all triage categories except ‘red’. The three most important independent determinants of ED-LOS >4hrs in triage category ‘blue&green’ were >2 consultations in the ED (Adjusted Odds Ratio (AOR)(95%-CI)) 3.92(3.39-4.54), the presenting complaint ‘intoxicated’ (3.63(2.39-5.54) and blood sampling 3.56(3.23-3.93). For ‘yellow’ these were >2 consultations (4.61(4.25-5.01), ‘intoxicated’ 3.50(2.88-4.24), and visiting hours 0-6PM (2.97(2.79-3.28, reference was 0-6AM). In ‘orange’ these were ‘intoxicated’ 3.46(2.79-4.30), >2 consultations 3.45(3.16-3.75), and ‘ED location B’ (2.21(1.99-2.46). In ‘red’ these were >2 consultations 2.62(2.10-3.27), headache 2.91(1.37-6.17) and fluid administration >500ml in the ED (1.75(1.34-2.29).

Discussion

Our “proof of principle” study suggests that benchmarking of EDs with respect to ED-LOS should be done per disease severity category given the different independent determinants found in triage categories and the different impact of ED location per triage category. Our study shows in which way the NEED can be used for benchmarking EDs with respect to ED-LOS.

#22944 : Three years of experience implementing a chemical submission protocol at an Emergency Department**Authors:**

JUAN ORTEGA PÉREZ (1), BERNARDINO BARCELÓ MARTÍN (2), MIGUEL ÁNGEL ELORZA GUERRERO (2), ISABEL GOMILA MUÑIZ (3), JORDI PUIGURIGUER FERRANDO (1), MERITXELL VIDAL BORRÀS (4), CATALINA HOMAR AMENGUAL (1), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. CHEMICAL DEPARTMENT , HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
3. CHEMICAL DEPARTMENT , HOSPITAL UNIVERSITARI SON LLÀTZER, PALMA DE MALLORCA, Spain
4. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Alcohol, Drug-Facilitated Sexual Assault, Chemical Submission, Sexual Offenses

Abstract :

Objective: Chemical submission (CS) is the surreptitious administration of psychoactive substances with criminal intent. In 2016 a multidisciplinary ED-protocol was created to homogenise and systematise care of patients with suspected CS, sometimes related to drug-facilitated sexual assault (DFSA). We analyse clinical and toxicological characteristics of cases in which the CS protocol was activated during the first two years of implementation.

Methods: Patients presenting to the Emergency Department (ED) with suspected CS from 1 May 2016 to 3 September 2019 were included. Age, sex, residence, substances admitted to have been taken, CS location, arrival to ED, toxins detected (ethanol in serum, cannabis, cocaine, benzodiazepines, opiates, amphetamines and ecstasy in urine by immunoassay, gamma-hydroxybutyrate (GHB), scopolamine, ketamine, general drug screening and confirmation of positive immunoassays in urine by gas chromatography-mass spectrometry (GC-MS)) and initial clinical situation were analysed. DFSA was also analysed, using the same variables.

Results: Overall 191 patients were treated, 0.03% of the ED presentations over the same period, 149 women (78%), with mean age 26.4 years. Most victims were local residents (n=98, 51.3%) and 45 (23.6%) arrived by ambulance. In 133 cases (69.6%), ethanol was present, most events occurred in a bar (68, 35.6%) or nightclub (27, 14.1%). The most frequent symptoms were amnesia (78.5%) and confusion (50.3%). After alcohol (73.8%), the most common toxins were cocaine (n=36, 18.8%) and cannabis (n=33, 17.3%). CS in patients with DFSA (n=94, 49.2%) compared to CS not involving DFSA (n=97, 50.8%), differed in mean age, gender (female, $p < 0.001$), and in symptoms (confusion, anxiety and in decrease in consciousness) ($p < 0.05$).

Conclusion: A CS protocol standardises the response to these presentations. Ethanol was the most common toxin, followed by cocaine and cannabis (both cocaine and cannabis are commonly detected in patients presenting to our ED). DFSA-CS cases were younger, more likely female, and non-residents, with amnesia and confusion predominant symptoms.

Trial Registration / Funding Information (only) :

No.

#22945 : Prospective validation of a 29 mRNA host response signature to diagnose suspected acute infections among Emergency Department patients in Berlin**Authors:**

Wolfgang Bauer (1), Noa Galtung (1), Kai Kappert (2), Oliver Liesenfeld (3), Wacker James (3), Henry Cheng (3), Dana Lehmann (1), Rudolf Tauber (2), Rajan Somasundaram (1)

1. Department of Emergency Medicine, Campus Benjamin Franklin, Charité Universitätsmedizin, Berlin, Germany
2. Institute of Laboratory Medicine, Clinical Chemistry and Pathobiochemistry, Charité Universitätsmedizin, Berlin, Germany
3. Clinical Affairs, Inflammix Inc, Burlingame, USA

Keywords: Infection, Sepsis, Emergency Department, mRNA host response, biomarker

Abstract :**Abstract :**

Introduction: Severe acute infections pose a risk for sepsis and are a major cause of health loss. The key questions for the treatment - diagnosis, prognosis and required level of care - are determined in the emergency department (ED). Current tests are impacted by slow turnaround time, difficult interpretation, and insufficient accuracy resulting in over-treatment with antimicrobials leading to adverse effects and antimicrobial resistance. We aimed to validate HostDx Sepsis, a 29 host mRNAs assay from blood; results were analyzed using a neural network-driven algorithm allowing prediction of the presence of bacterial and viral infections, and the severity of illness.

Methods: We enrolled a consecutive sample of 312 adult patients presenting with signs of acute infection from February 2019 until December 2019 in a prospective, non-interventional study in the ED of a university hospital. Ground truth was established using clinical adjudication via chart review (incl. PCT and CRP) by two internal medicine trained ED physicians blinded to the HostDx Sepsis results. RNA extracted from whole blood was processed on NanoString nCounter, and gene expression levels were analyzed using Inflammix's BVN-2 algorithm. Results were analyzed using Area Under the Receiver Operating Characteristics (AUROCs). BVN-2 allocated HostDx Sepsis bacterial and viral scores into four interpretation 'bands' using previously established cut-offs for very unlikely, unlikely, possible, and very likely bins.

Results: Chart review adjudicated patients into bacterial (152), viral (52), bacterial-viral coinfection (23), non-infected (8), or indeterminate (77). 20 patients (6.4%) with sepsis died within 30 days (sepsis-associated mortality within 30 day, SAM-30). HostDx Sepsis showed AUROC for bacterial and bacterial-viral coinfections vs. viral and non-infected patients of 0.86 (95% CI 0.80-0.92) compared to 0.82 (95% CI 0.75-0.88) for PCT and 0.75 (95% CI 0.68-0.82) for CRP. The AUROC for HostDx Sepsis predicting proven viral and bacterial-viral coinfections vs. proven bacterial and non-infected patients was 0.86 (95% CI 0.80-0.91). HostDx Sepsis AUROC for predicting SAM-30 was 0.80 (95% CI 0.69-0.90), compared to 0.65 (95%CI 0.53-0.77) for qSOFA and 0.70 (95%CI 0.58-0.82) for lactate. To allow clinical actions, HostDx Sepsis results segregate patients into interpretation bins: the "very likely bacterial" bin showed 98% specificity and a likelihood ratio (LR) of 18; the "very unlikely bacterial" bin showed a 97% sensitivity and a LR of 0.055. The "very likely viral" bin had 94% specificity and a LR of 10, while the "very unlikely viral" bin had 87% sensitivity and a LR of 0.24.

Discussion & Conclusions: HostDx Sepsis detected bacterial infections with greater accuracy than PCT and CRP (which were part of clinical adjudication) while also predicting viral infections and SAM-30 accurately. HostDx Sepsis severity scores offer potential for better prognosis and support of clinicians in level of care decision making. HostDx Sepsis is being developed as a rapid point-of-care device with a <30-minute turnaround time assisting in answering the key questions in the treatment of acute infections and sepsis in the ED.

Trial Registration / Funding Information (only) :

This study was registered at the German Clinical Trials Register (DRKS-ID 0017395); approved by the local Institutional Review Board (Charité's Ethics Committee, Charité Universitaetsmedizin Berlin) with all patients consented (EA4/167/18); This study was an Investigator Initiated Trial supported by Inflammatrix Inc.

#22946 : The association between presenting complaints and in-hospital mortality in Emergency Department patients of different age categories: using data from the Netherlands Emergency department Evaluation Database (NEED)

Authors:

Wouter RAVEN (1), Elisa van den Hoven (2), Menno Gaakeer (3), Ter Avest Ewoud (4), Ozcan Sir (5), Heleen Lameijer (6), Roger Hessels (7), Resi Reijnen (8), Erik van Zwet (9), Evert de Jonge (10), Christian Nickel (11), Bas de Groot (2)

1. Emergency Department, LUMC, LEIDEN, The Netherlands
2. Emergency Department, LUMC, Leiden, The Netherlands
3. Emergency Department, ADRZ Hospital, Goes, The Netherlands
4. Emergency Department, University Medical Centre Groningen, Groningen, The Netherlands
5. Emergency Department, Radboud University Medical Centre, Nijmegen, The Netherlands
6. Emergency Department, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
7. Emergency Department, Elisabeth-Tweesteden Hospital, Tilburg, The Netherlands
8. Emergency Department, Haaglanden Medical Centre, The Hague, The Netherlands
9. Department of Biostatistics, LUMC, Leiden, The Netherlands
10. Department of Intensive Care, LUMC, Leiden, The Netherlands
11. Emergency Department, University Hospital Basel, Basel, Switzerland

Keywords: Presenting complaints, in-hospital mortality, emergency department, age categories,

Abstract :**Introduction**

Although presenting complaints represent the most patient-centered clinical characteristics and are found to be predictors of relevant clinical outcomes, they are not often used for risk stratification in Emergency Department (ED) patients. Furthermore, it is unknown if their prognostic performance is dependent on the patient's age.

Our aim is to assess the frequency of presenting complaints in ED patients and to investigate the association between presenting complaints and in-hospital mortality in different age categories.

Methods

Observational multi-centre study using all visits of three EDs in the Netherlands Emergency department Evaluation Database (NEED). Patients were stratified by age categories (0-18; 19-50; 51-65; 66-80; >80 years). Per age category, the association between presenting complaints and case-mix adjusted in-hospital mortality was subsequently studied using multi-variable logistic regression analysis (adjusting for demographic characteristics, hospital, disease severity, proxies of comorbidity, and other presenting complaints).

Results

We included 172,104 ED-visits. The most frequent complaints were extremity complaints (range among age categories (13.5-40.8%)), 'feeling unwell' (9.5-23.4%), abdominal pain (6.0-13.9%), dyspnea (4.5-13.3%) and chest pain (0.6-10.7%). Below 50 years of age in-hospital mortality per presenting complaint was extremely low (0.1-0.3%). Above 50 years of age, the prognostic value of presenting complaints was similar among age categories with in-hospital mortality ranging from 1.4% to 5.3% for increasing age categories. Compared to extremity complaints, the most important independent determinants of in-hospital mortality were vomiting&diarrhea (Adjusted Odds Ratio (AOR(95%-CI)) 5.50(3.86-7.84), 'feeling unwell' 4.29(3.37-5.46), collapse 3.30(2.48-4.38), dyspnea 3.22(2.49-4.15), headache 2.97(1.97-4.50), and abdominal pain 2.85(2.18-3.73).

Conclusion

The most frequently occurring and deadly presenting complaints in ED patients >50 years are 'feeling unwell', abdominal pain and dyspnea. In ED patients <50 years, the same complaints will have hardly any prognostic value in clinical practice due to low in-hospital mortality. Future studies should investigate whether prehospital triage and risk stratification tools can be improved using presenting complaints.

#22947 : Retinal artery occlusion in a patient with giant cell arteritis

Authors:

MOH'D IRBASH (1), Terasa Broom (2)

1. ASSOCIATE SPECIALIST EMERGENCY MEDICINE, MIDYORKS NHS TRUST, Dewsbury, United Kingdom
2. Emergency medicine consultant, Midyorks NHS Trust, Wakefield, United Kingdom

Keywords: giant cell arteritis, vasculitis, central retinal artery occlusion

Abstract :

Giant cell arteritis (GCA) is classed as a large vessel vasculitis, although it also affects medium and small arteries, in particular the superficial temporal arteries. It has unknown etiology but a genetic component seems likely. Female sex and age more than 50 years are known to be risk factors. Histopathologically, it is characterised by a patchy infiltration of lymphocytes, macrophages and multinucleated giant cells into the intima, media and adventitia of the affected artery leading to transmural inflammation and hyperplasia of the artery. This process will result into stenosis of the arterial lumen and distal ischaemia.

Jaw claudication, headache, scalp tenderness, visual disturbances and neck pain reflect only the involvement of the head and neck arteries.

Ophthalmic complications are common in GCA. Early recognition and prompt treatment of GCA are essential to prevent blindness.

Case presentation

76 year old man attended our department complaining of severe headache for 2 weeks. He was seen previously by his general practitioner who advised him to take analgesia. A visit to the optician revealed no eye abnormality. His intraocular pressure in both eyes was 16mmHg. On examination in the emergency department his vital signs were within normal range except for mild hypertension. His neurological examination showed no abnormality, however, he was complaining of blurred vision and scalp tenderness on the left temple. Urgent baseline bloods and head computerised tomography (CT) scan were performed with normal results. The patient was discharged home with a diagnosis of tension headache.

The patient developed blindness in the left eye few days after his discharge and on his way to the emergency department he lost his vision in the right eye. His right eye visual acuity was 6/48 best corrected and his left eye visual acuity showed no perception to light (NPL). Erythrocyte sedimentation rate (ESR) was 48 and his C-reactive protein was 70. Fundal examination of the right eye revealed central retinal artery occlusion (CRAO) with pale disc and cherry red spot. The patient was admitted for intravenous methylprednisolone for three days followed by oral prednisolone treatment. Temporal artery biopsy confirmed the diagnosis of GCA with central retinal vein occlusion (CRVO). The patient vision in the right eye improved after 3 days of treatment. His visual acuity was 6/5 best corrected and remains NPL in the left eye.

Conclusion

GCA is not uncommon and certainly not rare. We were prompted to write this case report because this patient was seen by different clinicians before he was correctly diagnosed and he has lost permanently his vision in the left eye. Clinical suspicion and elevated ESR and CRP are more important than a head CT scan in diagnosing GCA. Emergency physicians should always include GCA in their differential diagnosis of new onset headache in patients 50 years of age or older. Temporal artery biopsy remains the mainstay standard for diagnosis of GCA. Steroid treatment for 2 years is warranted.

#22948 : Short Message during e-prescription for geriatric patients in the Emergency Department: Impact on high-risk medication in the elderly.**Authors:**

Nicolas GOFFINET (1), Julien MOYNARD (2), Eloise LEFURMUSQUER (3), Geoffrey DESVAUX (4), Hugo DECARVALHO (1), Eric BATARD (1), Emmanuel MONTASSIER (1)

1. Emergency department, University Hospital of Nantes, NANTES, France
2. Pharmacy, University Hospital of Nantes, NANTES, France
3. Geriatric department, University Hospital of Nantes, NANTES, France
4. IT department, University Hospital of Nantes, NANTES, France

Keywords: electronic prescription, high-risk medication, geriatric patients

Abstract :

Background: Following national recommendations on treatment security for the elderly, we implemented an electronic prescription alert (Short Message in Geriatrics – SMG) within our academic hospital. It's a short text pop-up when prescribing medication with a potential side effect for patient aged over 75-year-old. The alert gives two options: cancel prescription (default setting when pressing enter) or continue order. Our goal was to evaluate the impact of SMG within the emergency department (ED) and the rest of our hospital.

Methods: Our study took place from 23/11/2018 to the 23/11/2019 in a university hospital using e-prescription (MILLENNIUM, Cerner, USA). All prescriptions associated with an alert were included. Our primary criteria was the percentage of cancelled orders among orders receiving the alert. Percentages are shown with 95% confidential interval. The annulation rates were compared using the Khi2 test. A value of p under 0,05 was significant.

Results: During our study period, our adult emergency department received 11826 patients aged over 75 (13% [12-14]). There were 592 e-prescription alerts (5 SMG for 100 admission of patient > 75), resulting in 141 cancellation of prescription (24% [21-27]). This annulation rate was 25% [21-29] for anticholinergic medication and 21% [15-28] for oral antidiabetic medication. Those annulation rates were up to 34% [27-42] for nefopam and 27% [16-42] for hydroxyzine. Those rates were significantly higher for nefopam than oral antidiabetic medication ($p=0,02$). There were 2971 SMG in other parts of the hospital. The proportions of cancelled prescriptions was lower in other parts of the hospital (17% [15-18]) than in the emergency department ($p<0,001$).

Discussion & conclusions: An e-prescription alert decreased the use of high-risk medications within the elderly population in the ED. The impact was higher on acute medications (e.g. nefopam) than on chronic disease medications (e.g. antidiabetic pills). We have to work on those alerts so we could propose an alternative medication. We also have to add SMG for other medications such as long half-life benzodiazepines or broad-spectrum antibiotics.

#22949 : Tungiasis

Authors:

María de la Peña Lopez-Galindo (1), Maria de la Peña Lopez-Galindo (1), Beatriz Sierra (1), Sergio Aznar (1), Carlos Morales (1), Maria Jose Jimenez (1)

1. Emergency Department, Hospital Clínico Universitario Lozano Blesa. Zaragoza . Spain, Zaragoza, Spain

Keywords: Tungiasis, Tunga Penetrans.

Abstract :

Tungiasis is a skin parasite caused by blood-sucking pulses, with *Tunga penetrans* being the main species responsible. The parasite is native to America, being transported to the eastern hemisphere in the 19th century through transatlantic travel. Currently, the endemic areas of this parasitosis are Latin America, the Caribbean, sub-Saharan Africa, Madagascar, Zanzibar, the Seychelles, and some countries in Asia (West Coast of India and Pakistan) and Oceania. The disease occurs in developing countries, mainly affecting the lower socioeconomic levels. The prevalence of the disease is highly variable because few studies have been conducted in the communities. In endemic areas it ranges between 16 and 55%. The disease is observed more in dry climates than in rainy ones. The most commonly infested anatomical area is the foot because it is usually exposed in patients who do not have footwear. The most affected sites are the periungual

regions, interdigital folds and the soles of the feet, and may affect other locations in 5-10% of cases. To penetrate the skin, the pregnant female attaches itself to the skin through her face and crosses the epidermis to the dermoepidermal junction, in order to feed on the blood from the capillaries of the papillary dermis. The penetration phenomenon is asymptomatic. Lesions can be single or multiple, pruritic, painful, or asymptomatic. The diagnosis is made by the clinical aspect of the lesions (topography and morphology) in resident patients or who have traveled to endemic areas. We present a case of Tungiasis treated at the Emergency Service of our Hospital.

#22952 : An uncommon cause of a sore throat and hoarseness.

Authors:

Fatma Çetin (1), Sorina Kramps (1)

1. Emergency Department, Franciscus Gasthuis & Vlietland, Rotterdam, The Netherlands

Keywords: Emergency Department, blunt neck trauma, hoarseness

Abstract :Brief clinical history

An 89-year-old Caucasian woman was presented to our ED (Emergency Department) because of a possible TBI (Traumatic Brain Injury) after a fall from her bed. Her medical history included a TAVI (Transcatheter Aortic Valve Implantation) because of severe aortic valve stenosis, atrial fibrillation, ventricular pacemaker, brain stem infarction, narcolepsy and goiter.

At presentation she couldn't remember what exactly happened, but she probably fell out of her bed at night. In the morning she visited her general practitioner and he referred her to the ED because a possible TBI and the use of coumarins.

She reported a sore throat, especially when swallowing, complained about shortness of breath and her daughter mentioned that her voice sounded hoarse.

At clinical examination there was no swelling of the mouth or throat, and there neither was a stridor. Her neck wasn't easy to examine because of her short neck with pre-existent goiter. Her pulse oxygen saturation was normal, and her vitals were unremarkable.

Because evaluation by the ENT physician showed normal movement of the vocal cords a CT-scan of neck and thorax was ordered with suspicion for a laryngeal fracture caused by a blunt trauma. This showed a large mediastinal hematoma. After intubation a CT angiography of the neck was performed. The hematoma was caused by an arterial bleeding of a branch of the left arteria thyroidea inferior. The bleeding was coiled, and patient was admitted at the ICU.

-

Misleading elements

The neck was hard to examine for swelling due to pre-existent goiter.

Although hoarseness was present, there was normal movement of the vocal cords.

Despite of the bleeding the patient was hemodynamically stable at presentation a few hours after her fall.

-

Helpful details

A sore throat, shortness of breath and hoarseness after a fall by an old patient with coumarin use.

Differential diagnosis and actual diagnosis

Differential diagnosis upon presentation includes laryngeal fracture or rupture due to blunt trauma of the larynx, vascular injury of the neck, neck muscle hematoma and traumatic thyroid injury.

Diagnosis is hematoma due to an arterial bleeding of a branch of the left arteria thyroidea inferior.

-

What is the educational and/or clinical relevance of the case?

At presentation after a blunt neck trauma with symptoms of hoarseness, a sore throat and/or shortness of breath we always have to consider a serious laryngeal trauma like a bleeding of one of the arteries in the neck. Even when the patient is hemodynamically stable at presentation a few hours after the trauma and the mechanism might appear trivial.

#22953 : Pain-related unscheduled 7 days' return visits on Dutch Emergency Departments.

Authors:

Fatma Çetin (1), Vanessa Brown (1)

1. Emergency Department, Franciscus Gasthuis & Vlietland, Rotterdam, The Netherlands

Keywords: Unscheduled return visits, acute pain, emergency department

Abstract :

Introduction:

Unscheduled return visits to the Emergency Department (ED) are seen as a quality indicator of provided care. Previous research in The Netherlands reported an unscheduled ED return visit of 5% in 7 days. Abdominal pain, fever and pain in other parts of the body are common illness related complaints and symptoms exhibited by revisiting patients during their first visit to the ED. We believe that most of the pain related unscheduled ED return visits are avoidable when we better understand the reasons of revisits. The objective of this study was to determine the percentage of unscheduled ED revisits amongst patients with a pain related cause for visiting the ED and to categorize the reasons for revisits in patient related, illness related and physician related factors.

-

Methods:

A multicenter prospective cohort study was carried out in 12 different hospitals in The Netherlands during in 2019 for the period of 11 months. We included patients who were 18 years or older, with an initial presentation on the ED for an acute pain related cause and were discharged directly after ED treatment. Acute pain was defined as pain originated in 48 hours. After inclusion patients were asked to fill in online questionnaires with questions regarding the reasons for their unscheduled return visits for one week. The percentage of unscheduled revisits within one week, as well as the 7 day's revisit rates for the reason and type of the revisit was obtained with descriptive statistics (% and 95% CI exact binomial confidence interval).

Results:

A total of 1426 patients were included, of which 861 did respond on at least one day after the ED visit. From the 861 responders 120 had a minimum of one unscheduled revisit in 7 days. We found that 52.5% (95% CI 43.5-60.8) of the reasons of the revisits were illness related and 8.8% (95% CI 4.6-14.9) had a physician related cause. 11.0% (95% CI 6.3-17.5) of the revisits had a patient related cause. Most revisits were to the general practitioners (50.7%), 18.8% at the outpatient clinic and 12.5% at the Emergency Department.

Conclusion:

14% of all ED patients presenting themselves with an acute pain related cause revisit a physician within a week after discharge. Of these unscheduled revisits 12.5% came to the ED due to a possibly preventable physician or patient related cause. Adequate discharge information could possibly further prevent unnecessary unscheduled return visits.

Trial Registration / Funding Information (only) :

Trial number 2018-065, CASTOR SMS of Franciscus Gasthuis & Vlietland. Accepted at 16-7-2018. This study was sponsored by Stichting Coolsingel. The funding was used for creating the electronic application for the questionnaire. This study was approved by the Medical Research Ethics Committees United (MEC-U) at 30-8-2018, registration number W18.113.

#22954 : Novel ethanol point-of-care test device Albio™: further results and introduction to coming studies.

Authors:

Tuukka Tomminen (1), Ilkka Vartiainen (2), Shu Alex (3), Ari Palomäki (4), Ville Hällberg (5)

1. , None, Hämeenlinna, Finland

2. CO, Palfinland oy, Espoo, Finland

3. Assistant to president , Major Biosystem Co. Ltd, Taiwan, Taiwan, China

4. Professor of emergency medicine, Tampere university, faculty of medicine and health technology, Tampere, Finland

5. Specialty in emergency and internal medicine, Kanta-Häme Central hospital, Hämeenlinna, Finland

Keywords: Ethanol, point-of-care, Albio

Abstract :

Novel ethanol point-of-care test device Albio™: further results and introduction to coming studies. Introduction

Ethanol is one of the leading causes of death worldwide. Once intoxicated, the risk for trauma increases as the ethanol percentage rises. After valuating reasons for patient flow to emergency department, ethanol related visits cover 12 % to 15 % in daytime and the frequency rises in the weekend nights nearly to 70 %. Further, ethanol related visits need ambulance ride in nearly 90 % of cases. Ethanol intake can masquerade the real reason for the visit; after the first triage 23 % of the patients have been triaged with a false intake diagnose.

Generally, ethanol levels are measured via breathalyzer. It is used by first response units, police forces and by emergency departments. Another option is to take an intravenous sample, mainly used in the emergency departments. Both options have their weaknesses and cannot be utilized in every situation.

Breathalyzer demand a co-operating patient and sufficient exhale for results to be reliable.

The problem with venous sample is processing time. The process can take up to 30 – 90 minutes to deliver results. Thus, it doesn't help the clinician in the first evaluation of the patient.

To our best knowledge PAL Finland has developed world`s first point-of-care test for ethanol, Albio™. It is patented in EU, US patent pending. Albio™ can analyze blood ethanol concentration in 25 seconds from a small sample of blood. The sample can be taken from capillary blood; thus, it is easy and quick to use..Last year we introduced the very first test results from the device. They looked promising, but the company wanted them to be better. They spent last year to hone the device and now they have made internal validation and the device is marked ready in their opinion.

Objective

Firstly, the device had to be validated by the company. In the second phase, an independent research team will test the device in the field. The objective is to study whether, the device is accurate enough also in the real life and is reliable/practical to use. The study will start in 2020 and it is composed by the main author of this abstract (with research team) without any engage from the company.

Methods and results

We studied 26. March 2020 mean, standard deviation (SD) and coefficient of variation percent (CV%). We had external company manufacture predefined ethanol solution: 0.25, 0.75 and 1.25 permille. We made nine consecutive measurements from each solution. From those we calculated mean (SD) and CV%. From first solution (0.25 ‰), the results are as follows: mean 0.32 (0.016) ‰ and CV% 4.9. Further, for two other control concentrations (0.75

‰ and 1.25 ‰) the results were 0.82 (0.047) ‰, CV% 5.8 and 1.35 (0.096) ‰, CV% 7.1, respectively.

Conclusion

In the internal validation of the company, the results are solid. Because the number of tests is limited, we need to expand the number of measurements and simulate real life circumstances.

#22955 : Cerebral venous thrombosis

Authors:

María de la peña Lopez-Galindo (1), María de la peña Lopez-Galindo (1), Beatriz Sierra (1), Blanca Madariaga (2), Maria Jose Jimeno (2), Carlos Morales (1), Gracia Garcia (1), Ana Baguer (1)

1. Emergency Department, Hospital Clínico Universitario Lozano Blesa. Zaragoza . Spain, Zaragoza, Spain
2. Radiology Department, Hospital Clínico Universitario Lozano Blesa. Zaragoza . Spain, Zaragoza, Spain

Keywords: Cerebral Venous Thrombosis. Oral contraceptives.

Abstract :

Cerebral venous sinus thrombosis (CVT) represents around 0.5% of all cases of cerebral vascular disease worldwide.

Headache, focal deficits, and seizures are the most common initial manifestations with 89, 50, and 35% frequency, respectively.

The most sensitive and specific neuro-radiological diagnosis is magnetic resonance imaging (MRI). Heparin treatment is currently the most widely accepted. It has a mortality of 10% and the recurrence is at 2.8 per 100 cases despite anticoagulant therapy.

CVT is a serious but potentially treatable disease, and unlike arterial cerebral vascular disease, it most often affects young adults. Traditionally, TVC is divided into two groups: septic and aseptic, currently aseptic cases predominate.

In 30% of cases, CVT presents acutely and symptoms develop in less than 48 hours. Up to 50% of cases are subacute and symptoms develop between 48 hours and 30 days. The chronic form corresponds to 20% of cases and symptoms develop over a period of more than 30 days.

Patients in whom CVT develops acutely usually present neurological targeting data, while in those in whom the process develops chronically, isolated elevation of intracranial pressure (ICP) is the most common form. of presentation.

The most frequently found symptoms were: headache in 87%, seizures in 26.6%, nausea and vomiting in 24.7%, and focal deficits in 23.3%. According to the different series reviewed, headache is the symptom that occurs in more than 80% of cases and represents the initial symptom in at least 75% of patients. The characteristics of the headache are highly variable in terms of location, intensity, onset and evolution, and it can occur in the absence of any other neurological sign.

Given the wide range of manifestations of CVT, this should be ruled out with the neuroimaging studies available when there is clinical suspicion.

We describe the case of a 28-year-old patient, who was treated with oral contraceptives, who went to the Emergency Department of our Hospital, for presenting a headache of one week's evolution and whose diagnosis after performing MRI of the Brain was Thrombosis of superior longitudinal sinuses, straight sinus, transverse sinuses and Herophilic Press.

#22956 : UTILITY OF GRAVITY SCALES FOR THE PROGNOSTIC ASSESSMENT OF PATIENTS SUSPECTED OF INFECTION IN THE INITIAL TRIAGE OF AN EMERGENCY SERVICE.**Authors:**

Raul Lopez Izquierdo (1), Francisco Martín Rodríguez (2), Carlos Del Pozo Vegas (3), Julio Cesar Santos Pastor (4), Jorge Garcia Criado (5), Iaura Fadrique Millan (6), Virginia Carbajosa Rodriguez (6), Jesus Alvarez Manzanares (6), Henandez Gajate Mario (6), Pablo Del Brio Ibañez (7), Ana Belen Lopez Tarazaga (3), Carlos Jaime Avellaneda Martinez (4), Silvia Benito Bernal (7), Ana Isabel Valderrey Mielgo (3), Noelia Haro Mellado (5), Hilda Fernandez Ovalle (3), Noelia Otones Consuegra (4), Beatriz Torre Díez (7), Cristina Bolado Jimenez (3), Ana Belen Fraile Vicente (5), Raquel Cristobal de la Cruz (4), Raquel Pedrero Alonso (8), Alicia Martin Aires (5), Alvaro Muñoz Galindo (5), M^a Antonia Udaondo Cascante (9)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
3. Emergency Department, Hospital Clínico Universitario de Valladolid., Valladolid, Spain
4. Emergency Department, Complejo Hospitalario Segovia. , Segovia, Spain
5. Emergency Department, Complejo Asistencial Universitario de Salamanca, Salamanca, Spain
6. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
7. Emergency Department, Hospital Universitario Río Hortega. Valladolid, Valladolid, Spain
8. Emergency Department, Complejo Asistencial Universitario de Salamanca, Valladolid, Spain
9. Radiology department, University Hospital of Burgos, Burgos, Spain

Keywords: infection, scales, prognosis, triage

Abstract :**Background:**

The severity scales are a tool that can help decision-making in the emergency services, complementing the different structured triage systems. Many gravity scales have been developed in recent years, but not all of them behave in the same way.

Aim:

To know the utility of different severity scales in the prognostic assessment of patients with suspected infection who come to an emergency department.

Material and methods:

Multicentric prospective observational longitudinal study, January 21th, February 19th, March 20th, April 24th, May 27th, 2019 (8:00-22:00) in four Spanish ED. At the arrival of the patient, we determined infection suspicion and the demographic variables, score on the qSOFA, NEWS, VIEWS, MEWS, MREWS, EWS, HEWS, SEWS, RTS, GAP. Exclusion criteria: <18 years, not sign the informed consent and not suspected infection. The main dependent variable was mortality from any cause in the hospital before the first 30 days from the index event (30M). Mortality data were obtained by reviewing the patient's electronic history at 31 days before attention. The area under the curve (AUC) of the receiver operating characteristic (ROC) (95% CI) of different scores was calculated to both dependent variables. Univariate and multivariate study were calculated, with Odds ratio (OR). Software: SPSS 23.00. $p < 0,05$.

Results:

N: 227 patients. Median age: 75 (RIQ 58-86) years. female: 52,4%. 30M: 19 (48.4%). Hospitalization: 109 (48.0%). Median age 30M: 86 (80-91), survivors 73 (56-85) $p < 0.001$; 30M: male: 13%, female: 4.2% ($p < 0.05$). AUC ROC 30M: qSOFA: 0.67 (95% CI 0.53-0.81) ($p < 0.05$) NEWS: 0.72 (95% CI 0.59-0.85) ($p < 0.001$), VIEWS: 0.73 (95% CI 0.61-0.86) ($p < 0.001$), MEWS: 0.61 (95% CI 0.49-0.73) ($p > 0.05$), MREWS: 0.73 (95% CI 0.62-0.85) ($p < 0.001$), EWS: 0.56 (95% CI 0.43-0.70) ($p > 0.05$), HEWS: 0.53 (95% CI 0.39-0.67) ($p > 0.05$), SEWS: 0.56 (95% CI 0.43-0.70) ($p > 0.05$), RTS: 0.61 (95% CI 0.46-0.75) ($p > 0.05$), GAP: 0.79 (95% CI 0.70-0.89) ($p > 0.05$). Logistic regression significant scores, age and gender: NEWS OR: 1.20 (95% CI 1.00-1.44), age: 1.07 (95% CI 1.02-1.14) ($p < 0.05$), gender: 5.52 (95% CI 1.70-17.94); VIEWS OR: 1.21 (95% CI 1.02-1.43); age: 1.07 (95% CI 1.01-1.13), gender: 5.50 (95% CI 1.69-17.91); MREWS OR: 1.20 (95% CI 0.99-1.45) ($p > 0.05$), age: 1.07 (95% CI 1.01-1.14), gender: 5.37 (95% CI 1.66-17.33). QSOFA OR: 2.31 (95% CI 1.04-5.13) ($p < 0.05$), age: 1.08 (95% CI 1.02-1.14) ($p < 0.05$), gender: 4.88 (95% CI 1.50-15.82). GAP OR: 1.39 (95% CI 1.13-5.13) ($p < 0.001$), age: 1.07 (95% CI 1.01-1.3) ($p < 0.05$), gender: 6.89 (95% CI 1.94-24.41).

Conclusion:

The GAP scale is the one with the best area under the curve to predict mortality, followed by VIEWS, NEWS and qSOFA. The use of these scales can help the prognostic assessment of patients with suspected infection in the emergency services from their initial triage.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers. All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) for research projects in Biomedicine, Healthcare Management and Healthcare Care, with registration number GRS 1711/A/18, principal investigator: Raúl Lopez Izquierdo, as part of the "Usefulness of the use of the early gravity scales and the lactic acid in the triaje the hospital emergency services"

#22957 : History and Electrocardiogram-only Manchester Acute Coronary Syndromes (HE-MACS) score as a triage tool**Authors:**

Trishan Bali (1), Abdulrhman Alghamdi (2), Richard Body (3)

1. EMERGING Research Group, Manchester Royal Infirmary, Oxford Road, United Kingdom
2. EMERGING Research Group, University of Manchester, Manchester, United Kingdom
3. EMERGING Research Group, Manchester Royal Infirmary, Manchester, United Kingdom

Keywords: acute coronary syndrome, emergency medicine, triage, chest pain

Abstract :

Background: Decision aids in the high-sensitivity troponin era, such as HEART score and the 'Troponin-only Manchester Acute Coronary Syndromes (T-MACS) tool, have limited use for risk stratification in the prehospital setting due to their dependence on blood testing. In this study we sought to explore the potential for the History and ECG-only Manchester ACS (HE-MACS) decision aid to be used in a triage capacity for patients presenting to the Emergency Department (ED) with suspected cardiac chest pain.

Methods: Prospective data was collected from adult patients who had presented to the Manchester Royal Infirmary ED from 14/01/2020 to 04/03/2020 with suspected cardiac chest pain; the data collected included parameters necessary to determine their HE-MACS and T-MACS scores (age, birth sex, ECG changes, initial serum troponin value and the presence of worsening angina, pain radiating to right arm, vomiting, sweating and/or systolic blood pressure less than 100mmHg). Patients were considered to have a diagnosis of acute myocardial infarction (AMI) if they had a high-sensitivity cardiac troponin T concentration above the 99th percentile upper reference limit (14ng/L) with an absolute delta of at least 7ng/L.

Results: Clinical data was collected from 454 patients for a comparative analysis of their HE-MACS and T-MACS risk stratification; 68 of these patients lacked a second troponin result and so were excluded from analyses of the diagnostic accuracy. The mean age of included patients was 58 years (60% male, 40% female). The AMI incidence was 44 (11.4%) patients met criteria for AMI. HE-MACS identified 46 (11.9%) patients as 'very low risk' (potentially an immediate 'rule out') missing one case with a significant troponin rise (though no definite diagnosis), to achieve 97.8% sensitivity (95% CI: 88.2-99.9%) and a negative predictive value (NPV) of 97.8% (95% CI: 86.4-99.7%). T-MACS identified 144 (37.3%) as 'very low risk' by T-MACS with a sensitivity of 97.8%, (95% CI: 88.2-99.9%) and NPV of 99.3 (95% CI: 95.4-99.9%), missing one case with a significant troponin rise (deemed to be secondary to arrhythmia upon discharge).

In the same population, HE-MACS identified 13 cases as 'high risk' (potentially an immediate 'rule in' AMI) with a specificity of 97.4% (95% CI: 95.1-98.8%), and a positive predictive value (PPV) of 30.8% (95% CI: 12.5-58.1); and T-MACS identified 11 cases as 'high risk' with a specificity of 100% (95% CI: 98.9-100.0) and a PPV of 100%.

Discussion and Conclusions: The sole presence of history and ECG changes, in the absence of troponin measurements, could safely 'rule out' AMI in 11.7% of patients via the HE-MACS decision aid. These findings are encouraging for the use of HE-MACS as a triage tool in the pre-hospital environment and ED, and show potential for streaming patients based on risk stratification; for example referring 'very low risk' patients to urgent care centres, 'low/medium risk' patients to the emergency department and 'high risk' patients to tertiary centres. Further evaluation of its use in triage should be carried out prospectively in these settings.

Trial Registration / Funding Information (only) :

Trial Registration: Not applicable Funding: This study did not receive any specific funding Ethical approval: not needed

#22958 : Characteristics and outcomes of older patients visiting the Emergency Department with a fall**Authors:**

Laura Blomaard (1), Leonie van Meer (1), Julia Leander (1), Jacinta Lucke (2), Jelle de Gelder (3), Sander Anten (4), Jacobijn Gussekloo (3), Simon Mooijaart (1), Bas de Groot (5)

1. Internal Medicine, section Geriatrics, Leiden University Medical Center, Leiden, The Netherlands
2. Emergency Medicine, Spaarne Hospital, Haarlem, The Netherlands
3. Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands
4. Internal Medicine, section Acute Care, Alrijne Hospital, Leiderdorp, The Netherlands
5. Emergency Medicine, Leiden University Medical Center, Leiden, The Netherlands

Keywords: geriatric emergency medicine, falls, frailty, older patients

Abstract :**Background**

Older patients frequently visit the Emergency Department (ED) with falls. It is often unknown which of these falls represent frailty of the patient, although this might be important information for ED management. This study explores patient- and fall characteristics (causes and circumstances) of older patients with fall-related ED visits and assesses if these characteristics are associated with adverse outcomes.

Methods

This was a secondary analysis of the observational multicenter Acutely Presenting Older Patient (APOP) study, in which ED patients aged ≥ 70 years presenting with a fall were prospectively included. Fall characteristics were retrospectively collected from patient records. We compared adverse outcomes (functional decline and mortality 3 and 12 months after the ED visit), between patients with different patient- and fall characteristics.

Results

We included 393 patients with fall-related ED visits (61.8% females, median age 80 (IQR 76-86) years). The cause of falls was extrinsic in 49.6% (n=195), intrinsic in 29.3% (n=115), unexplained in 6.4% (n=25) and missing in 14.8% (n=58) of patients. Patients had a higher risk on 3 months adverse outcomes if the cause of the fall was intrinsic compared to extrinsic (OR 2.14 (95%CI 1.32-3.47)), if they fell indoors (OR 3.03 (1.80-5.11)), if they had a hip fracture (OR 3.00 (1.66-5.42)), and if they were frail according to the APOP-screener (OR 3.72 (2.28-6.07)).

Conclusion

In older patients with fall-related ED visits, patient- and fall characteristics were associated with adverse outcomes. Both should be taken into account in the ED, and could guide follow-up geriatric assessment and interventions.

Trial Registration / Funding Information (only) :

ZonMw project number 62700.3001 and 62700.4001

#22959 : Refractory ventricular fibrillation treated with double sequential defibrillation; Pilot study

Authors:

Hee Eun Kim (1), Seung Min Park (1)

1. , Seoul National University Bundang Hospital, Seongnam, Korea, Republic of

Abstract :

Introduction: Refractory shockable rhythm has a high mortality rate and poor neurological outcome. Treatments for refractory shockable rhythm presenting after defibrillation and medical treatment are not definite. We conducted research on the application of double sequential defibrillation (DSD) for refractory shockable rhythms.

Methods: This is a retrospective pilot study done using medical records from 1 January 2016 to 31 December 2017. The pre-phase was from January to December 2016. The post-phase was from January to December 2017.

During the pre-phase, we conducted conventional defibrillation with one defibrillator, and during the post-phase, we conducted DSD using two defibrillators. Primary outcome was survival to hospital discharge. Secondary outcome was survival to hospital admission and good neurological outcome at 6 months. Statistical analysis was conducted using the Fisher's exact test. Data was regarded statistically significant when $p < 0.1$.

Result: A total of 38 patients were included. Twenty-one patients underwent conventional defibrillation, and 17 underwent DSD. The DSD group had a higher survival to discharge and survival to hospital admission rate, and was statistically significant (7/17[41.2%] vs. 3/21[14.3%], $p=0.078$), (14/17[82.4%] vs. 6/21[28.6%], $p=0.001$), respectively. Good neurological outcome at 6 months of the DSD group was higher than that of the conventional defibrillation group, but was not statistically significant (5/17[29.4%] vs 2/21[9.5%], $p=0.207$).

Conclusion: In patients with refractory shockable rhythms, DSD has increased survival to hospital discharge and survival to hospital admission rate. However, DSD did not improve neurological outcome at 6 months.

Trial Registration / Funding Information (only) :

Funding Information: None

#22960 : Experiences with and attitudes towards screening for geriatric vulnerability among older Emergency Department patients: a qualitative study**Authors:**

Laura Blomaard (1), Mareline Olthof (1), Yvette Meuleman (2), Jacobijn Gussekloo (3), Simon Mooijaart (1), Bas de Groot (4)

1. Internal Medicine, section Geriatrics, Leiden University Medical Center, Leiden, The Netherlands
2. Clinical Epidemiology, Leiden University Medical Center, Leiden, The Netherlands
3. Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands
4. Emergency Medicine, Leiden University Medical Center, Leiden, The Netherlands

Keywords: geriatric emergency medicine, patient experience, screening, frailty, older patients

Abstract :**Background**

Screening tools assessing geriatric vulnerability in older Emergency Department (ED) patients are seldom put to use in routine care. This study explores experiences with and attitudes towards routine screening for geriatric vulnerability among older ED patients.

Methods

Individual face-to-face semi-structured interviews were conducted at home in older patients (≥ 70 years) within one month after they completed the 'Acutely Presenting Older Patient' (APOP) screener at the ED of Leiden University Medical Center. Purposive convenience sampling was used to select a heterogeneous sample of participants regarding age, disease severity and APOP-screening result. Interviews were audio recorded and transcribed verbatim. Transcriptions were analyzed inductively using thematic analysis with Atlas.ti software.

(Preliminary) results

After 13 interviews (6 men, 7 women, median age 81 years), data saturation was reached. Most participants considered the vulnerability screening to be part of routine care and could not remember the particular screening questions, except for the cognition test. Their overall attitude towards the concept of screening was positive. Participants believed that vulnerability screening could help to identify the patient as a whole and adapt care to the patient's needs, which they considered important for all patients, regardless of age. Participants who did not consider themselves to be vulnerable, did not personally experience an added value of the screening but they did believe in the added value for others.

Conclusion

From an ED-patients' perspective, screening for geriatric vulnerability was experienced as a part of routine ED care and was considered to be of added value for optimal ED care.

Trial Registration / Funding Information (only) :

Funding - This work was supported by ZonMw [project numbers 627005001, 6270040011]. The Institute for Evidence-Based Medicine in Old Age (IEMO) is supported by the Dutch Ministry of Health, Welfare and Sport and supported by ZonMw [project number 627003001]. Trial registration - the Netherlands Trial Register, NTR7171

#22961 : Diagnostic accuracy of point-of-care lung ultrasonography using two methods of calculating the pulmonary congestion score in adults with symptoms suggestive of acute decompensated heart failure**Authors:**

Yaakoubi Hajer (1), roua chouihi (1), ahmed amin abri (1), oussama acheche (1), lotfi boukadida (1), rym youssef (1), houda ben salah (1), asma zorgati (1), riadh boukef (1)

1. urgence, CHU sahloul, sousse, Tunisia

Keywords: Lung Ultrasonography, Pulmonary Congestion Score, acute heart failure

Abstract :

Introduction: Point - of - care lung ultrasonography (LUS), as a bedside approach, has emerged as a practical diagnostic tool for the most common causes of dyspnea . The present study assessed the performance of a simplified scoring system for evaluating pulmonary congestion .

Objective : To compare the accuracy of LUS using two methods of calculating the pulmonary congestion score , the first assessing B-lines in 4 lung fields to more detailed assessments with 8 fields , in the diagnosis of cardiogenic pulmonary edema in adult patients presenting with dyspnea .

Materials and methods: Patients admitted to the Emergency Department for dyspnea were enrolled. B- lines were evaluated at admission and the pulmonary congestion score was calculated using two methods : one score out of 30 analyzing B-lines in 8 fields and the second score out of 15 assessing them in 4 fields .The gold standard for the diagnosis of acute heart failure was based mainly on pro -BNP level .

Results: 560 chest sonography were performed on patients who initially presented to the emergency department with dyspnea. The mean age was 68 ± 13 years ; sex ratio was 1.23. The diagnosis of acute heart failure was retained in 56 % of the population study. In 247 patients , an Pulmonary Congestion score (SCP-1) was obtained by summing the number of B-lines of 4 zones of chest scans. In 313 patients a (SCP-2) was obtained by summing the number of B-lines of 8 zones . The area under the curve of SCP-1 is 0.820 and the area under the curve of SCP-2 is 0.838

Conclusion : This novel simplified lung ultrasonography scoring method counting only B-lines in 4 fields provides not only easy-to-acquire data in an emergency setting but also as refined as counting them in 8 fields in order to assess pulmonary congestion in patients with heart failure .

#22962 : What do we know about poisoning due to caustic products in Pediatrics?**Authors:**

JUAN ORTEGA PÉREZ (1), CRISTINA MONTALVO ÁVALOS (2), MERITXELL VIDAL BORRÀS (3), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. PEDIATRIC SURGERY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
3. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Caustics, Esophagitis, Acids.

Abstract :

Introduction: The suspicion of intoxication in pediatrics is a diverse and variable cause of emergency consultation, highlighting caustic products for their potential toxicity and risk of sequelae.

Objectives:

- Define the epidemiological and clinical characteristics of pediatric patients treated for suspected caustic intake in our setting.
- Review current management recommendations and update current protocols.

Material and methods: Retrospective descriptive study of patients treated in the emergency department on suspicion of caustic ingestion from January 2005 to December 2018.

Results / Discussion: A total of 57 patients were obtained, 38 of them male (66.6%), median age 3.6 years (range: 1-14 years). 34 patients (59%) were referred from other centers. Complementary tests were carried out in 49 cases, with laboratory tests (93.8%) and chest radiography (46.9%) being the most frequent. The most ingested agent was bleach in 15 cases (26.3%) followed by kitchen degreasers in 9 (15.7%). Digestive endoscopy was performed in 52 patients, objecting lesions in 21 patients, not requiring surgery in any case. Proton pump inhibitors were administered in 80.7%, antiemetics in 53%, antibiotic in 42% and corticosteroids in 51.7%. No antidote or activated charcoal was indicated in any case, but a nasogastric tube was placed in 15. Complications were recorded in 3 patients (2 laryngotracheal caustications and 1 pulmonary atelectasis) with favorable resolution.

Conclusions: The easy access to alkaline and acidic solutions as well as the use of powerful concentrated cleaners makes the majority of toxic intake in children accidental at home.

It is necessary to improve health education by reporting on preventive measures and immediate management; and define action protocols since many patients require only clinical observation without more aggressive treatment measures.

#22963 : A rare and frightening effect of a commonly used drug

Authors:

Alessio Marra (1), Lorenzo Della Bella (2), Roberto Cosentini (2)

1. Emergency Department, Hospital Papa Giovanni XXIII, Bergamo, Italy
2. Emergency Department, Hospital Papa Giovanni XXIII, BERGAMO, Italy

Keywords: amiodarone, low back pain, adverse effect

Abstract :

Amiodarone is an anti-arrhythmic drug used to treat supraventricular and ventricular arrhythmias. We report a rare adverse effect following IV infusion, excruciating severe whole body pain.

A 67 year old male presented at the emergency department (ED) for recent onset palpitations. He was diagnosed as having atrial fibrillation (AF), without signs or symptoms of haemodynamic instability, pulmonary congestion or myocardial ischemia. He reported a previous episode of AF, successfully treated with amiodarone. IV loading of amiodarone (300 mg over 30 minutes) was started. After 5 minutes, the patient complained acute, severe low back pain associated with flushing and pre-syncope. The pain rapidly spread to the whole body. Infusion was stopped. Vital signs, clinical examination and ECG were unchanged. Bedside echo excluded an acute aortic syndrome. High sensitive troponin I (hs-Tnl) and d-dimer (XDP) were tested, while paracetamol 1000 mg infusion was started. Symptoms resolved within 5 minutes.

Chronic amiodarone use is limited by side effects (pneumonia, pulmonary fibrosis, disthyroidism, hepatotoxicity, peripheral polyneuropathy, optic neuritis, skin disorder, bradycardia), related to drug accumulation. Amiodarone infusion can cause hypotension, usually related to infusion velocity. Polysorbate-80, an excipient for parenteral amiodarone, might play a role in amiodarone-related hypotension, through vasodilation. Moreover, it has been linked to other immunological and non-immunological reactions.

Similar cases have already been reported, with pain usually located at the lower back. The physiopathology of this reaction is unknown, although some have advocated a vasodilatory - vasospasm mechanism, possibly related polysorbate-80. Interestingly, switching from iv to oral administration was not associated with back pain in a 2010 case, supporting the role of one of the solvent.

In our patient the first infusion of the drug had been well tolerated, suggesting that a kind of hypersensitivity reaction. Our patient also reported a flushing sensation that can be associated with hypersensitivity reactions. However, in most reported cases the first administration of amiodarone caused severe pain, supporting an idiosyncratic aetiology. In some reports, pain was associated with urticaria, complicating the clinical picture.

It should be highlighted that in two reports, patients of the same Unit developed symptoms in a restrained range of time, raising questions on production batch defects.

In all cases, the pain was very severe but of brief duration and completely self-resolving few minutes after stopping the infusion. We used IV paracetamol as analgesic, that might have helped. No analgesics were used in the other cases reported, except for IV hydrocortisone 250 mg iv, given to one patient because of urticarial rash.

Our patient was subsequently given IV flecainide 150 mg iv, with restoration of sinus rhythm. Hs-Tnl and XDP levels were normal. Given a Wells score of 0 and a negative CUS of the lower limbs, the patient was not investigated for pulmonary embolism, and was discharged after 3 hours of observation.

This unusual adverse effect of amiodarone infusion can be frightening, given its intensity, and may lead to unnecessary exams, such as contrast enhanced CT scan for pulmonary embolism or aortic dissection. Hence, ED physician must be familiar with it.

#22964 : Hypereosinophilic Syndrome – A tale of Heartache and Weakness

Authors:

Yee Har Liew (1), Juliana Poh (1)

1. EMERGENCY MEDICINE, Singapore General Hospital, Singapore, Singapore

Keywords: Hypereosinophilic Syndrome, Myocarditis, Stroke

Abstract :**Brief Clinical History**

We report a case of a 64-year-old Chinese lady who presented to the Emergency Department with sudden onset right-sided weakness and numbness, along with concomitant chest tightness. She had a background of hypertension, hyperlipidaemia and a previous right pure motor stroke in 2011. Neurological examination demonstrated reduced power over right upper and lower limb. Sensation was spared and there was no cerebellar dysfunction.

Misleading Elements

CT brain did not reveal any acute territorial infarcts or intracranial haemorrhage. MRI Brain was performed and showed multiple acute infarcts in the cortical (external) and deep (internal) watershed zones. There were also scattered acute infarcts in bilateral cerebellar hemispheres and a possible subacute infarct in the right thalamus. In addition, her cardiac enzymes were elevated with a troponin level of 618 ng/L, which was suggestive of myocardial injury. However, her ECG did not reveal any changes suggestive of ischaemia and she was in sinus rhythm.

Helpful Details

Her Full Blood Count showed marked eosinophilia with an absolute count of $11.90 \times 10^9/L$. Transthoracic echocardiogram showed ejection fraction of 63% with no regional wall motion abnormalities. There was no thrombus detected. Further workup for other causes of eosinophilia including infectious and autoimmune screen were unremarkable. With a raised troponin level along with eosinophilia, the diagnosis of Eosinophilic Myocarditis was considered. Cardiac MRI was then performed and it showed the unusual appearance of lateral/apical left ventricle wall thickening with an MR signal suggestive of sub-endocardial oedema. This reflected local infiltration in the context of hypereosinophilia.

Differential and Actual Diagnosis

In view of the above findings, differentials include Cardioembolic Stroke with concomitant myocardial injury; Systemic Inflammatory Syndromes with Eosinophilia such as Eosinophilic Granulomatosis with polyangiitis; and infective / helminthic causes such as Chagas Disease (less likely in our region).

The patient was subsequently diagnosed with Hypereosinophilic Syndrome - with the clinical manifestations of Eosinophilic Myocarditis and embolic stroke. She was placed on dual antiplatelet therapy and started on high dose steroids – Prednisolone 1mg/kg. Subsequent labs done at her outpatient follow-up showed resolution of the eosinophilia.

Educational and/ or Clinical Relevance of the Case

Hypereosinophilic Syndrome is a rare condition with an estimated prevalence of 0.3 – 0.6 per 100, 000. There is eosinophil-mediated end organ damage and / or dysfunction, and this can lead to multi-organ involvement. The different possible constellations of symptoms, along with the general paucity of knowledge on this condition among the medical profession, makes diagnosis of this condition incredibly difficult. Patients with Hypereosinophilic Syndrome can be asymptomatic for a period of time until it manifests with end organ complications. Hence, a raised eosinophil count should be given more attention as it can be a diagnostic clue to underlying Hypereosinophilic Syndrome.

Diagnosis of Hypereosinophilic Syndrome can be challenging. This case demonstrated the key findings which led to prompt recognition and early initiation of treatment. It resulted in a better outcome for our patient and ultimately, reduction in further morbidity and mortality.

Attachment: EUSEM Final Abstract.docx

#22965 : Incidence of deliberate self-poisoning in the emergency department of a French university hospital: 8 years retrospective study**Authors:**

Charlotte Fraygefond (1), H el ene Vergnaux (1), Eric Batard (2), Quentin Le Bastard (3), Philippe Le Conte (2)

1. Emergency Department, University Hospital, Nantes, Nantes, France
2. Urgences, CHU Nantes, Nantes, France
3. Urgences adultes, H otel Dieu, Nantes, France

Keywords: toxicology, suicide, self-poisoning

Abstract :**Incidence of deliberate self-poisoning in the Emergency Department of a French University Hospital: 8 years retrospective study****Background**

There is approximately 200 000 suicide attempts each year in France, 80% of them being deliberate self-poisoning. The majority of these patients are admitted to the Emergency Department (ED) medical treatment before psychiatric evaluation. We aim to investigate the epidemiology and the temporal trends of these admissions both in the ED and in Intensive Care Unit (ICU) between 2010 and 2017.

Patients and Methods

It was a retrospective study performed on the patient's database of our hospital. Inclusion criteria were admission to the ED or the ICU for self-poisoning. The main criteria was the temporal trend of admission for self-poisoning. Patients were identified by ICD-10 diagnosis codes related to self-poisoning. Extracted data were analyzed using PASW statistics. Continuous data expressed as mean \pm standard deviation were compared using Student t test, categorical by CHI2 test, $p < 0.05$ being significant.

Results

8016 hospitalizations related to self-poisoning were found between 2010 and 2017, 1006 (12.6%) of them in the ICU. The population was composed by 4863 women and 3153 men (39%), mean age 44 ± 18 years old. The number of hospitalizations/year in the ED and in the ICU declined from 1049 in 2010 to 524 in 2017 and from 189 to 79, respectively, $p < 10^{-3}$. The ED and ICU incidences evolved from 19 patients to 7/1000 between 2010 and 2017 and from 3 to 1/1000 patients, respectively, $p < 10^{-3}$. The hospital length of stay was longer for ICU patients (4.4 ± 7.5 days vs 2.3 ± 4.7 , $p < 10^{-3}$). Overall, 50 patients died (fatality rate 0.6%), more frequently for those hospitalized in the ICU (fatality rate 2%) than in the ED (0.5%). After the hospitalization, 26% of patients were admitted in psychiatry and 74% were discharged home.

Discussion and conclusion

The major results were decreases of self-poisoning related hospitalizations incidences between 2010 and 2017. There are few surveys on such a long period of time, this result might thus be interesting. Our study had some limits: it was monocentric and retrospective, thus our results could not be extrapolated to other regions. However, a decrease of self-poisoning in the last few years has already been described in few studies.

#22966 : Pleth-variability index predicts fluid responsiveness in critically ill patients in the emergency department**Authors:**

roua chouih (1), hejer yaakoubi (1), lotfi boukadida (1), marwene kacemi (1), mouez mejri (1), rym youssef (1), asma zorgati (1), riadh boukef (1)

1. urgence, CHU sahloul, sousse, Tunisia

Keywords: Pleth variability index, fluid responsiveness, sepsis, septic shock

Abstract :

Introduction: Sepsis is a life-threatening condition that arises when the body's response to infection causes injury to its tissues and organs. The severity of microcirculatory damage and mainly its persistence, is a predictor of mortality, regardless of cardiac output or blood pressure. That's why it is mandatory to develop simple tools evaluating organ perfusion at the bedside. In patients with acute circulatory failure related to sepsis or hypovolemia, volume expansion is used as first-line therapy in an attempt to improve cardiac output. Technological advances in plethysmographic signal processing suggest a potential interest in hemodynamic evaluation.

Objective: To determine whether pleth variability index can predict fluid responsiveness in patients with septic shock.

Materials and methods: Retrospective monocentric observational study, carried out between October 20019 and January 2020, which included patients consulting the emergency department for septic condition regardless of the initial presentation. A PVI measurement was made upon arrival of the patient and then one hour later.

Results: During the study period, we included 54 patients. The average age was 65 years with a sex ratio of 1.16. In addition to the fever, which is almost constant, respiratory signs represent the most frequent reason for consultation (32.4 % of cases) followed by urinary symptoms (20.5 % of cases). Besides Pleth 's variability index , changes in pulse blood pressure were recorded before and after filling. Twenty – six patients were responders and 19 were non-responders. The mean variability index at the arrival of the patient was $29\% \pm 10\%$ against $29\% \pm 10\%$. One hour later. The threshold value of the pleth variability index of 16 % allowed discrimination between responders and non-responders.

Conclusion: Our study suggests that PVI is a workable and interesting method for predicting fluid responsiveness in septic patients in the emergency department.

#22967 : CTPEI improves the prognostic value of pulmonary embolism severity index in patients with acute pulmonary embolism : a retrospective study

Authors:

Ping Xu (1), Yarong He (1), Dongze Li (1), Linghong Cao (2), Wenbin Huang (2), Wei Liu (2), Yu Cao (1)

1. Emergency Department, West China Hospital, Chengdu, China
2. Emergency Department, Zigong Fourth People's Hospital, Zigong, China

Keywords: computed tomographic pulmonary angiography; pulmonary artery obstruction index; pulmonary embolism severity index; 30-day all-cause mortality

Abstract :

Background and objective: Pulmonary embolism severity index (PESI) has been shown to be extensively validated, and helpful in the prognostic assessment of patients with acute pulmonary embolism (APE), and computed tomographic pulmonary angiography (CTPA) provided additional imaging-based prognostic information of pulmonary embolism severity, yet PESI and CTPA had relatively limited prognostic values. This study validated PESI and CTPA in prediction of all-cause mortality and investigated the predicting value of new scoring system based on PESI by adding some parameters of CTPA. **Methods:** A retrospective study of consecutive patients with the diagnosis of acute pulmonary embolism (APE) between January 1, 2014 and January 1, 2018 in Zigong Fourth People's Hospital was conducted. The primary endpoint was 6-month all-cause mortality after admission. New scoring system named CTPEI was derived from PESI and CT parameters including pulmonary artery obstruction index (PAOI) and signs of right ventricular dysfunction (RVD). In univariate Cox regression, these variables with *P* values <0.1 were chosen as candidate predictors and entered into a multivariate Cox regression model. The coefficients of PESI and CT parameters were accurately calculated by the Cox regression equation. Discriminant ability of PESI and CTPEI on survival at 6 months was assessed by Harrel C index, continuous net reclassification improvement (NRI) and integrated discrimination improvement (IDI). The internal calibration between the prediction by nomogram and the actual survival outcome was shown by calibration curves. We conducted decision curve analysis (DCA) to compare the clinical practicality and benefits between PESI and CTPEI. **Results:** A total of 203 patients were enrolled in the study. The all-cause mortality within 30 days, 3 months, and 6 months was 10.8% (22/203), 15.3% (31/203) and 17.7% (31/203) respectively. PAOI and PESI were independent risk factors for all-cause mortality in patients with APE within 6 months in multivariate Cox regression. CTPEI increased prognostic performance of PESI (C index = 0.772, 95% CI 0.771-0.772; ½ NRI = 0.311, *P* = 0.016; IDI = 0.046, *P* = 0.120). The internal calibration curves of CTPEI indicated relatively accurate agreement between the prediction and actual survival outcomes, and decision curve analysis revealed CTPEI obtained more net benefits than PESI within wide threshold probabilities. CTPEI showed the highest prediction accuracy among the 4 scoring systems including PAOI, PESI, sPESI and CTPEI, and the AUCs predicting all-cause mortality within 30 days, 3 months and 6 months were 0.835(95% CI: 0.776 to 0.883, *P* = 0.000), 0.804(95% CI: 0.742 to 0.856, *P* = 0.000) and 0.777 (95% CI: 0.713 to 0.832, *P* = 0.000) respectively. Subgroup analyses found that the areas under ROC of CTPEI predicting mortality of APE with intermediate-risk within 30 days, 3 months, and 6 months were 0.839 (95% CI: 0.757 to 0.903, *P* = 0.000), 0.805 (95% CI: 0.718 to 0.874, *P* = 0.000), and 0.772 (95% CI: 0.682 to 0.847, *P* = 0.000) respectively. **Conclusions:** Our study suggested CTPEI was a useful and easily acquired indicator in predicting 30-day, 3-month and 6-month mortality in patients with APE. However, our findings should be confirmed by further prospective and multi-center studies.

Trial Registration / Funding Information (only) :

he study was registered at the Chinese Clinical Trial Registry. The registration identification number is ChiCTR1900023216. This work was funded by Research project of Zigong City Science & Technology and Intellectual Property Right Bureau (2018CZ10), Hospital Special Foundation for Xinglin Scholars' Scientific Research Promotion Program of Chengdu University of Traditional Chinese Medicine (YYZX2019045), the National Natural Science Foundation of China (Grant Nos. 81471836 and 81772037 to YC, No. 81801883 to YRH), the 1•3•5 Project for Disciplines of Excellence, West China Hospital, Sichuan University (Grant No. ZYJC18019) to YC, and the Chengdu Science and Technology Huimin Project (Grant No. 2016-HM02-00099-SF) to YC.

#22968 : Relevance of Computed Tomography ordered in the Emergency Department of a University Hospital.

Authors:

Pierre Leauté (1), Océane Pettinotti (1), Leslie Méresse-Prost (1), Frederique Toulgoat (2), Eric Batard (3), Philippe Le Conte (3)

1. Emergency Department, University Hospital, Nantes, Nantes, France
2. Radiology Department, University Hospital, Nantes, Nantes, France
3. Urgences, Hôtel Dieu, Nantes, France

Keywords: Computed tomography, relevance

Abstract :**Background**

An increasing number of patients is reported in the Emergency Departments (ED) from the whole European Union leading to overcrowding situations. Besides, more and more Computed Tomography (CT) are ordered for these patients, hence increasing the ED length of stay. However, a recent study performed in the USA found that almost 20% of these exams were not indicated according to the American College of Radiology recommendations. We aimed to investigate the relevance of CT ordered in our ED.

Patients and Methods

It was a prospective observational study performed between January and March 2019 including a convenience sample of CT ordered for adult patients in our ED. Exclusion criteria was dementia or adults with protection measures. CT relevance was explored using **two** different methods: adequacy with French national recommendations and for a 100-patient sample, the notification of an adjudication committee composed by 2 Emergency Physicians and 1 Radiologist. The expected CT delay of realization was compared with the actual delay. There was no funding.

For 10% of CT without relevance with an alpha risk 0.05 and beta 0.20, the required number of patients was 300. Concordance between the estimated relevances was explored using Kappa coefficient, $p < 0.05$ was significant.

Results

311 CT were included, 38 secondarily excluded (10 minors, 8 protected adults, 10 CT with missing data, 5 without CT, 5 with wrong identification). According to t recommendations and adjudication committee, the relevances were 79% [CI95% 74-84%] and 70% [CI95% 61-80%], respectively. Kappa coefficient between recommendations and adjudication committee 0.27. The expected delay of realization was **completed** for 67% of CT without significant difference according to relevance. There was no significant change in relevance depending on the physician experience or CT body location.

Discussion and conclusion

Our study has a limitation since the number of excluded CT precluded to reach the required number of patients. However, according to national recommendations, at least 20% of ordered CT in our ED could be avoided without expected major risks for the patients. This could save time for these patients and lower the overcrowding of our ED.

#22969 : Child and parent experience of a paediatric emergency ambulatory care pathway; a qualitative survey.

Authors:

Margot Van De Vijver (1), Sarah Murless (1), Jacqueline Le Geyt (1)

1. Paediatric Emergency Department, Chelsea and Westminster Hospital, London, United Kingdom

Keywords: Ambulatory care, paediatrics, intravenous antibiotics

Abstract :**Background:**

As the number of emergency attendances and admissions continues to grow annually, ambulatory care pathways have emerged as an increasingly common component of paediatric emergency care. There are well described benefits of keeping children at home with their families and avoiding hospital admission. A popular ambulatory care pathway is the daily assessment and treatment with intravenous antibiotics for acute conditions such as cellulitis.

Patient and parent satisfaction is an important measure of the quality of a health care service provided. Despite this, to date no research has been undertaken to evaluate whether ambulatory care pathways are a positive experience for the child and their family.

This study aims to assess the patient and their family's experience of an ambulatory care pathway for intravenous antibiotic treatment and gather their suggestions on how the clinical service can be improved.

Methods:

This is a qualitative study using a survey addressed to the paediatric patient and their parents or carer.

The study is being conducted between March and June 2020, in a paediatric emergency department in London, England, that sees 42,000 children per year. The department ambulances between 800 to 1200 patients per year.

This study includes all paediatric patients being ambulated on intravenous antibiotics on discharge from the emergency department. Any child suitable for ambulating as per our local policy is being included regardless of the condition being treated. The child and parent are given a voluntary anonymised survey to complete after their second intravenous antibiotic dose and asked to submit virtually (QR code) or by posting in a collection box. The first hundred submitted surveys will be analysed, giving a total volunteer sample of a hundred patients aged six months to fifteen years old.

The survey consists of questions using a graded scale response (poor, fair, good and excellent), yes/no questions and free text answers. The questions assess satisfaction with various parts of the 'ambulating process' including overall satisfaction, communication and the patient and family experience of starting the process and being home. The survey includes specific questions for the

parent and the child (if age appropriate). The data is being analysed through qualitative and thematic analysis.

Results:

At the time of abstract submission, data collection is ongoing. Analysis of the data collected thus far shows the overall satisfaction rating of the ambulatory care process as 'good'. We have received constructive feedback to improve the existing service. Strong themes emerging so far include improving the information provided at the start of the process and relief at being able to avoid admission to hospital.

Discussion & Conclusions:

This is the first study to look at children's and their families' experience of emergency ambulatory care. Results so far indicate the ambulatory care pathway for intravenous antibiotics is perceived as a positive experience for both child and parent with overall satisfaction of the service. However, this service-user survey has highlighted simple ways to improve the ambulatory service to ensure it is patient-centred and optimises the patient journey.

Trial Registration / Funding Information (only) :

Trial Registration: The study was registered with our local Research and Development office. Funding: "This study did not receive any specific funding."

#22970 : Prognostic value of right ventricular/left ventricular diameter ratio on computed tomography pulmonary angiography in patients with pulmonary embolism: a systematic review and meta-analysis

Authors:

Ping Xu (1), Yushu Wang (2), Junzhao Liu (1), Sheng Ye (1), Dongze Li (1), Yu Cao (1)

1. Emergency Department, West China Hospital, Chengdu, China
2. Emergency Department, Chengdu First People's Hospital, Chengdu, China

Keywords: Computed tomography; Right ventricular; Left ventricular Mortality; Prognosis; Pulmonary embolism

Abstract :

Background: Right ventricular (RV)/left ventricular (LV) diameter ratio on computed tomography pulmonary angiography (CTPA) have been proposed as potential predictors of outcome in pulmonary embolism (PE). The aim of this study was to evaluate the prognostic value of RV/LV diameter ratio for predicting the in-hospital or 30-day PE-related mortality in patients with PE.

Methods: We searched CENTRAL, PubMed, EMBASE, VIP, CNKI and Wan Fang Database for studies that reported on the association between RV/LV diameter ratio and in-hospital or 30-day mortality in patients with PE. A random-effect model was used for meta-analysis of single proportions and calculation of pooled odds ratios (ORs). We calculated the sensitivity and specificity, positive likelihood ratio (PLR) and negative likelihood ratio (NLR), and diagnostic odds ratio (DOR) and diagnostic score in the model of diagnostic test accuracy meta-analysis. Spearman's correlation and meta-regression analysis was performed to quantify and explain inter-study heterogeneity.

Results: Twelve studies reported on in-hospital or 30-day deaths resulting from PE in 3795 patients. The rates of PE-related mortality were 8.97% (95% CI, 3.89% to 19.34%) and 2.89% (95% CI, 1.03% to 5.66%) in patients with vs. without RV/LV diameter ratio increased on CTPA, respectively. RV/LV diameter ratio was associated with an increased in-hospital or 30-day PE-related death (OR 2.59, 95% CI 1.45 to 4.61). The pooled sensitivity, specificity, PLR, NLR, DOR and diagnostic score and the area under summary receiver operating characteristic of increased RV/LV diameter ratio measured on computed tomography (CT) images were 0.72 (95% CI, 0.54 to 0.84), 0.55 (95% CI, 0.44 to 0.67), 1.61 (95% CI, 1.26 to 2.05), 0.51 (95% CI, 0.32 to 0.86), 1.15 (95% CI, 0.48 to 1.82), 3.15 (95% CI, 1.61 to 6.15) and 0.67 (95% CI 0.63 to 0.71) respectively. Spearman's correlation and meta-regression revealed that publication year, and study location of America contributed to inter-study heterogeneity.

Conclusions: The prognostic value of RV/LV diameter ratio measured on CT images does not support a role for the parameter as a single tool for predicting the early PE-related death. It is recommended that it should be integrated into other scoring systems to improve the prognostic value in patients with PE.

Trial Registration / Funding Information (only) :

This was registered with PROSPERO (CRD42019131384). This work was funded by Research project of Zigong City Science & Technology and Intellectual Property Right Bureau (2018CZ10), Hospital Special Foundation for Xinglin Scholars' Scientific Research Promotion Program of Chengdu University of Traditional Chinese Medicine (YYZX2019045), the National Natural Science Foundation of China (Grant Nos. 81471836 and 81772037 to YC, No. 81801883 to YRH), the 1·3·5 Project for Disciplines of Excellence, West China Hospital, Sichuan University (Grant No. ZYJC18019) to YC, and the Chengdu Science and Technology Huimin Project (Grant No. 2016-HM02-00099-SF) to YC.

#22971 : Value of thoracic imaging in the first assessment of severely injured patients with chest trauma: Results of a Prospective Study**Authors:**

mouez mejri (1), lotfi boukadida (1), oussema acheche (1), nada ilahi (1), houda ben salah (1), asma zorgati (1), riadh boukef (1)

1. urgence, CHU sahloul, sousse, Tunisia

Keywords: Thoracic imaging, chest trauma, X ray, chest scan, pneumothorax

Abstract :

Introduction: Thoracic trauma is a common cause of significant disability and mortality. Thus, imaging of patients with thoracic trauma must be accurate and timely to avoid preventable death. The aim of this prospective study was to evaluate the value of thoracic imaging in the detection of severe injuries in patient presenting to the Emergency department with chest trauma.

Methods: In this prospective monocentric study, we included all adult patients presenting in ED with chest trauma requiring chest imaging.

Result: We included 62 patients with an average age of 35 years (\pm 18 years). Most of our study's population were men (71% with a sex ratio = 2.6). Most thoracic injury resulted from domestic accident 51.6% followed motor vehicle crashes 27.3% and assaults 16.1%. 14.5% of patients were brought to the ED by medical transport team. Using Vittel criteria we found that: High-speed mechanism was incriminated in 9.7% of chest injuries, deformation and major damage in 1.6% of cases. Ejection and falling from a height of > 3m resulted in severe thoracic trauma in 1.6% and 3.2% of patients respectively. Isolated chest trauma was diagnosed in 69.4% of patients. On clinical examination, the most commonly found sign is palatal palpation pain (80.6%) then costal cracking 25.8%, subcutaneous emphysema and chest contusion were found in 16.1% of cases with 3.2% of patients presenting with a clinically detected costal component. A study between the data collected by the clinical examination compared to the presence or not of serious lesions at the end of exploration shows that the presence of a subcutaneous emphysema, a contusion, or a crack or a costal component is associated to severe lesions in 100% of cases with a specificity and sensitivity approaching 100% but the pain on the palpation of the odds despite this is the most frequently found sign associated with serious lesions only in 85% of cases (sensitivity) and with a specificity of 80%. In our series, we note a good correlation for the diagnosis of rib fractures between standard radiography and thoracic CT, but with a greater sensitivity for the latter the standard X ray detect only 81% of the rib fracture. For parenchymal and pleural lesion, standard chest X-ray did not show good sensitivity for the detection of airway effusion of low abundance vs chest CT. Only 59% of pneumothorax and 33% of hemothorax are detected by standard chest X ray.

Conclusion: CT scan represents the gold Standard in the detection of traumatic lesions, Indeed several traumatic lesions can be underestimated by standard radiography such as costal fractures, parenchymal lesions, and effusions of low abundance.

#22972 : Replacement of SaO₂ with SpO₂/FiO₂ improves the prognostic value of simplified pulmonary embolism severity index in patients with acute pulmonary embolism

Authors:

Ping Xu (1), Yarong He (1), Junzhao Liu (1), Xia Huang (2), Jianjun Zhang (2), Wenbin Huang (2), Wei Liu (2), Yu Cao (1)

1. Emergency Department, West China Hospital, Chengdu, China
2. Emergency Department, Zigong Fourth People's Hospital, Zigong, China

Keywords: simplified pulmonary embolism severity; pulmonary embolism severity index; fraction of inspired oxygen; arterial oxygen tension to the fraction of inspired oxygen

Abstract :

Background and objective: simplified pulmonary embolism severity (sPESI) has limited prognostic value for patients with acute pulmonary embolism (APE), and one of parameters of sPESI was invasive. This study aimed to evaluate whether replacing SaO₂ with SpO₂/FiO₂ improves the prognostic value of sPESI.

Methods: we retrospectively collected the data of consecutive patients with APE in the Zigong fourth people's hospital, from January 1, 2014 to January 1, 2019. The endpoint was 1-month all-cause mortality. We tried to modify sPESI by replacing SaO₂ with PaO₂/FiO₂ (new scoring system named psPESI), and modify sPESI by replacing SaO₂ with SpO₂/FiO₂ (new scoring system named ssPESI), and performed a receiver-operating characteristic curve, integrated discrimination improvement (IDI), net reclassification improvement (NRI), calibration and decision-curve analysis (DCA) analyses to investigate whether ssPESI and psPESI can improve sPESI for risk prediction in patients with APE.

Results: a total of 280 patients (109 with low-risk, 155 with intermediate-risk and 16 with high-risk PE) were enrolled in the study. Of these patients, 165 (58.93%) were male and the all-cause mortality after admission within 1 month was 10.71% (30/280). ssPESI had similar discrimination ability with psPESI, and ssPESI had better discrimination ability and obtained more net benefits than sPESI. psPESI and ssPESI were well-calibrated in the internal validation cohort with the Hosmer-Lemeshow test being not statistically significant and obtained more net benefits within wide threshold probabilities than sPESI.

Conclusions: the prognostic value of sPESI for patients with APE was enhanced by replacement of SaO₂ with SpO₂/FiO₂.

Trial Registration / Funding Information (only) :

This study was registered at the Chinese Clinical Trial Registry with registration identification number ChiCTR1900023216. This work was funded by Research project of Zigong City Science & Technology and Intellectual Property Right Bureau (2018CZ10), Hospital Special Foundation for Xinglin Scholars' Scientific Research Promotion Program of Chengdu University of Traditional Chinese Medicine (YYZX2019045), the National Natural Science Foundation of China (Grant Nos. 81471836 and 81772037 to YC, No. 81801883 to YRH), the 1•3•5 Project for Disciplines of Excellence, West China Hospital, Sichuan University (Grant No. ZYJC18019) to YC, and the Chengdu Science and Technology Huimin Project (Grant No. 2016-HM02-00099-SF) to YC.

#22973 : Retrospective Analysis of Management Pregnant Women With Dyspnea In The Emergency Department**Authors:**

Ozge Akdemir (1), Simge Altuntas (1), Ilhan Uz (1), Funda Akarca (1)

1. Emergency Department, Ege University Faculty of Medicine, izmir, Turkey

Keywords: dyspnea, pregnancy, alveolar oxygen gradient

Abstract :**Background**

Physiological and anatomical changes in pregnancy may cause dyspnea in a healthy pregnancy. On the other hand, dyspnea may be the first complaint of many life-threatening conditions. Imaging methods are limited in pregnancy because of the radiation effect. Thus evaluation and differential diagnosis of pregnant women with dyspnea is a significant subject in emergency medicine.

Method

We performed a retrospective analysis of all pregnant patients presenting to the emergency department of a university hospital between 1 March 2017 and 1 March 2020, who had dyspnea and who were older than 18 years.

Results

Eighty-four patients included in this study. The mean age of the patients was 29.4 years. %11(10 of 84) of the patients were in the first trimester, %32.1(27 of 84) were in the second trimester, and %55.9(47 of 84) were in the third trimester of their pregnancy.

%30 of the patients had tachycardia. The wells score was higher than 1 in %38 of the patients.

The D-dimer evaluated according to the trimester of pregnancy, as follows: first trimesters cut-off, 750 ng/mL; second trimester, 1000 ng/mL; third trimester, 1250 ng/mL. Twenty-four patients had the D-dimer higher than the cut-off, 13 (%54) of them were diagnosed requiring hospitalization.

Arterial blood gas was taken from 23 patients. Three patients had alveolar oxygen gradient above 20 mmHg; one of them had pneumonia; the other two of them had pulmonary neoplasm. Twenty patients had P(A-a)O₂ under 20 mmHg, who didn't admit to the hospital with pulmonary insufficiency related pathology in 30 days.

Computed tomography pulmonary angiography(CTPA) was performed to 2 patients, ventilation-perfusion scintillation(V/Q) was performed to 2 patients; one of the four patients had alveolar oxygen gradient(P(A-a)O₂) above 20 mmHg and she had lung cancer diagnosed by tomography, other 3 patients had P(A-a)O₂ under 20 mmHg and pulmonary insufficiency related pathology wasn't found with scanning methods.

Discussion and Conclusion

In this study, we aimed to evaluate the management of pregnant patients with dyspnea and draw attention P(A-a)O₂ value predict the need for further invasive imaging in patients with respiratory distress.

Normal pregnancy-related dyspnea, pregnancy complications (abortion, preterm labor, ablation placenta), pulmonary embolism, asthma attack, malignancy, respiratory tract infection, intraabdominal pathologies must be considered in the differential diagnosis.

Scoring systems (perc, wells, geneva) used to calculate the risk of pulmonary embolism can be misleading and may cause unnecessary examination; due to the frequent occurrence of tachycardia in pregnant women. P(A-a)O₂ with arterial blood gas evaluation may be beneficial for the differential diagnosis of pulmonary pathologies, reducing the radiation exposure of patients.

The main limitation of this study is the small sample size, the retrospective design, low number of patients with arterial blood gas, and CTPA or V/Q wasn't performed to every patient who had arterial blood gas.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding

#22974 : Use of artificial intelligence for the evaluation of hospital admission in the emergency services.

Authors:

Raul Lopez Izquierdo (1), Francisco Martin Rodriguez (2), Julio Cesar Santos Pastor (3), Carlos Del Pozo Vegas (4), Jorge Garcia Criado (5), Laura Fadrique Millan (6), Virginia Carbajosa Rodriguez (6), Jesus Alvarez Manzanares (6), Susana Sanchez Ram6n (7), Pablo Del Brio Ibañez (7), M Milagros Cisneros Perez (7), Carlos Jaime Avellaneda Martinez (3), Ana Belen Lopez Tarazaga (4), Noelia Haro Mellado (5), Noelia Otones Consuegra (3), Ana Belen Fraile Vicente (5), Tony Giancarlo Vasquez del Aguila (4), Ana Isabel Valderrey Mielgo (4), Raquel Cristobal de la Cruz (3), Hilda Fernandez Ovalle (4), Cristina Bolado Jimenez (4), Silvia Benito Bernal (7), Raquel Pedrero Alonso (8), Alicia Martin Aires (5), Alvaro Mu6oz Galindo (5), M^a Antonia Udaondo Cascante (9), Raquel Ordas Linacero (6)

1. Emergency Department, Rio Hortega University Hospital, Valladolid, Spain
2. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
3. Emergency Department, Complejo Hospitalario Segovia. , Segovia, Spain
4. Emergency Department, Hospital Cl6nico Universitario de Valladolid., Valladolid, Spain
5. Emergency Department, Complejo Asistencial Universitario de Salamanca, Salamanca, Spain
6. Emergency Department, Rio Hortega University Hospital, Valladolid, Spain
7. Emergency Department, Hospital Universitario Rio Hortega. Valladolid, Valladolid, Spain
8. Emergency Department, Complejo Asistencial Universitario de Salamanca, Valladolid, Spain
9. Radiology department, University Hospital of Burgos, Burgos, Spain

Keywords: Emergency, prognosis, artificial intelligence

Abstract :**Background:**

Knowing the prognosis of patients early is important to initiate appropriate care measures for each patient. The use of artificial intelligence techniques such as neural networks can be an advance in this type of analysis.

Aim:

To assess the usefulness of a neural network to determine the probability of admission of patients upon arrival at the emergency services.

Material and methods:

Multicentric prospective observational longitudinal study, January 21 and February 22, March 20th, April 24th, May 27th, 2019 (8:00-22:00) in four Spanish ED and had a triage level II or III according to the Spanish triage system (STS). It was considered that a patient fulfilled criteria to be included in the study if he had been attended by ED study and did not meet any exclusion criteria: <18 years, I, IV and V level in STS, pregnant women, psychiatric pathology, terminal pathology or not sign the informed consent. Dependent variable: 30-day mortality. Independent variables: Factors: gender, suspicion of infection, triage level, high blood pressure, some alteration in consciousness. Co-variables: age, Charlson index (CI), systolic blood pressure (SBP) (mmHg), Heart rate (HR) (bpm), breathing rate, (BR) (BPM), oxygen saturation (OS) (%), temperature. Creation of a neural network SPSS 24.0 program using the multilayer technique, use of a random partition and batch training. Creation of an Area under the diagnostic performance curve (AUROC) and relative percentage in the created model of each variable used. The AUROC of the NEWS scale is also performed.

Results:

N: 937; Average age 67.55 (19.47) years: female: 51.1% Summary of RN case processing: Training: 683 (72.9%); tests: 254 (27.1%). Number of hidden layers: 1, number of units in the hidden layer: 5; Activation function: Hyperbolic tangent; Layer of Activation function of the output layer: Softmax. Error Function: Cross Entropy. Correct training percentage: 96.8%, reserve percentage: 96.5%. AUROC of neural network created: 0.890. Normalized importance of the entered variables: age: 100%, BR: 76.4%, Sat O₂: 69.3%, SBP: 58.8% .2%, CI: 56.9%, some alteration in consciousness: 52.4%, HR: 40.9%, gender: 33.4%, suspected infection: 20.9%, triage level: 17.5%, temperature: 15.8%, hypertension: 7.9%. AUROC obtained by NEWS scale: 0.744 (0.648-0.839) (p <0.001).

Conclusions:

The use of RN for the creation of mortality prediction models among patients arriving at ureteral services may be of great help in the future. The model created presents a great predictive capacity with some variables accessible in any emergency department, based on the patient's history and the constants on arrival. Relatively, age, BR, Sat O₂, SBP and IQ are the variables with the greatest weight in the model that has been created. It highlights that it improves the NEWS scale in its predictive capacity.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers. All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) for research projects in Biomedicine, Healthcare Management and Healthcare Care, with registration number GRS 1711/A/18, principal investigator: Raúl Lopez Izquierdo, as part of the "Usefulness of the use of the early gravity scales and the lactic acid in the triaje the hospital emergency services"

#22975 : Disaster training and knowledge in French speaking Belgian ambulance personnel: a survey study.**Authors:**

Luc Mortelmans (1), Olivier Hoogmartens (2), Erik Genbrugge (3), Marc Sabbe (4)

1. Dept Emergency Medicine, ZNA, Antwerp, Belgium
2. Center for Research and Education in Emergency Care, ART, Leuven, Belgium
3. Federal Health Inspection, Ministry of Health, Antwerp, Belgium
4. Dept Emergency Medicine, UZ Gasthuisberg, Leuven, Belgium

Keywords: disaster medicine, knowledge, ambulance, Belgium

Abstract :

Background: With a dense petrochemical industry and several nuclear installations, Belgium is at risk for CBRN (Chemical Biological Radionuclear) incidents. The Brussels bombings revealed the risk for terror attacks and the country is prone to natural disasters as floods. Ambulance personnel will be the first to be confronted with the care for victims of these incidents but are they trained to perform properly? We wanted to evaluate the disaster training and knowledge of the French speaking ambulance personnel in Belgium.

Methods: An online survey looking for demographic parameters, self-reported risk, competence and willingness to work on 8 potential scenarios was presented to francophonic ambulance personnel through the federal health inspection. Self-reported scores were correlated with a set of practical and theoretical questions on the subject.

Results: As we are still collecting data only preliminary results on the first 457 respondents are presented. Male/Female ratio was 85/15 and 64% of the respondents reported that they were professional ambulance personnel. 48% stated they had some disaster courses before. 72% found it absolutely necessary to include this training in the basic ambulance curriculum. 75% worked on a fire department-based ambulance. 81% stated that they had any links with a fire department apart from their ambulance activities, 21% with the military and 17% with the civil protection (more than one link per participant possible). 73% had a practical training in the use of personal protective equipment (mean knowledge 6.55/10) and 31% in decontamination (mean knowledge 3.57/10). 98% could use a tourniquet, 88% military hemostatic bandages and 35% radio-detection equipment.

Self-estimated risk for incidents to occur ranged from 3.59/10 for nuclear incidents to 5.88/10 for chemical incidents. Self-estimated competence varied from 3.43/10 for in mass shooting incidents and 6.21/10 in natural disasters. Willingness to work scores higher from 4.95/10 in nuclear incidents and 5.57/10 in Ebola outbreak over 7.19/10 in mass bombing attacks to 7.23/10 in mass shootings and 7.46/10 in natural disasters.

The practical/theoretical case mix revealed a high confidence in Iodine tablets: 24% believes they protect against external radiation, 10% will use them as first step in nuclear decontamination and 11% believe that they will limit radiation damage the most over distance and shielding. 35% directs potentially contaminated victims into the advanced medical post and 9% will intervene in a potential chemical hazard accident without prior fire department clearance.

Discussion: Although the knowledge scores are rather low, our study population scores better than their Dutch colleagues who have a longer and more severe basic training. We estimate that the impact of the links with the fire department, military and civil protection in a large proportion of our population could promote their preparedness. This has to be evaluated in the statistics on the definite study population.

In conclusion we can state that the knowledge and basic training on disasters of francophonic ambulance personnel can be improved. There is a clear perceived need to incorporate it in the basic ambulance curriculum.

Trial Registration / Funding Information (only) :

There was no financial support for this study

#22976 : Prospective evaluation of the prevalence and risk factors of intracranial lesions following mild traumatic brain injury in subjects 65 years old and over admitted to ED**Authors:**

Xavier Dubucs (1), Frederic BALEN (1), Eric SCHMIDT (2), Sandrine CHARPENTIER (1), Dominique LAUQUE (1)

1. Emergency Department, CHU Toulouse, Toulouse, France
2. Neurosurgery, CHU Toulouse, Toulouse, France

Keywords: Mild Traumatic Brain Injury, elderly

Abstract :

Background: Mild traumatic brain injury (mTBI) is the leading cause of emergency department (ED) visits due to trauma among the population over 65 years of age. The objective of this study was to assess the prevalence and risk factors of mTBI-related intracranial lesions (ICL) in subjects over 65 years of age admitted to the ED by recording in the ED the precise anamnesis of injury and clinical findings.

Method: We conducted a monocentric prospective study. Patients over 65 years of age admitted in ED for mTBI were included by the ED medical team using a standardized survey. The primary endpoint was an ICL on the brain CT scan. Between January 2019 and June 2019, 365 patients were included. Univariate analysis was performed to compare patients with and without ICL.

Results: The prevalence of ICL was 7.2% (26/365). Median age was 86.5 years (SD=8.5) and 244 (66.8%) were women. The most common cause of mTBI was ground-level fall (335/365, 91.8%). Overall, 141 patients (38.6%) were on antiaggregant and 128 (35.0%) on anticoagulant. In univariate analysis, temporoparietal ($p = 0.01$, ICL+ 8/26; ICL- 44/339) and occipital ($p = 0.003$, ICL+ 7/26; ICL- 30/339) impacts were associated with high risk of intracranial lesion. Classical risk factors of ICL were identified as female gender ($p = 0.05$), vomiting ($p = 0.04$), headache ($p = 0.001$), Glasgow score of 14 ($p = 0.002$) and focal neurologic sign ($p < 0.001$). Anticoagulants and antiaggregants were not associated with high risk of ICL ($P=0.69$ and $p=0.18$ respectively). Finally, 141 patients (38.7%) had an isolated mTBI, without wounds requiring suture or any medical and/or trauma emergency. Two hundred and fifty-nine patients (71 %) were discharged without hospitalization.

Discussion & Conclusions: Among patients of 65 years old and over, the prevalence of ICL after a mTBI was similar to adult population. High rate of mTBI-related ED transfer without admission in hospitalization should stimulate research into better targeting elderly with high risk of ICL after mTBI. The location of skin impact on clinical examination at the ED may identify patients with high risk for mTBI-related ICL.

Trial Registration / Funding Information (only) :

Toulouse University Hospital signed a commitment of compliance to the reference methodology MR-004 of the National Commission for Informatics and Liberties (CNIL number: RnIPH 2019-82).

#22977 : HEMOCUE: a rapid, non-invasive tool of measurement hemoglobin in seriously injured in the emergency department

Authors:

rahma jaballah (1), hejer yaakoubi (1), roua chouih (1), lotfi boukadida (1), anissa rzig (1), rym youssef (1), asma zorgati (1)

1. urgence, CHU sahloul, sousse, Tunisia

Keywords: HEMOCUE, hemoglobin, emergency department, polytrauma, hemorrhagic shock

Abstract :

Introduction: Hemoglobin levels are usually determined by laboratory analysis. Waiting for results slows down the management of serious patients. The HEMOCUE is a portable device that can give us this value instantly and precisely.

Objective : To evaluate the reproducibility of hemoglobin levels measured by HEMOCUE versus blood formula count made in the laboratory.

Materials and methods : Prospective study made between 2017 and 2018 which included all patients suffering from polytrauma. Hemoglobin measurement by two methods: by HEMOCUE and by a blood test in the laboratory. The delay in obtaining results by each method is noted. Excluded are unstable patients requiring urgent exploration in the operating room. The analysis of the results is done by SPSS 18 software.

Results: We included 149 patients. The average age of our population was 38 ± 17 years. The majority of patients were male, The sex M / F ratio is 5.25. Systolic blood pressure was 117 ± 21 mm Hg and diastolic blood pressure was 71 ± 16 . The average heart rate was 94.9 ± 18 . The Glasgow score was 14.4 ± 1.4 . 24.2% of the population had active bleeding on admission. We made 198 hemoglobin measurements by both methods. The average time for obtaining results by HEMOCUE is 26 seconds, while waiting for the laboratory assessment takes on average 58 ± 38 minutes. The correlation between these two Hemoglobin values is significant $p < 0.001$ and a Pearson correlation r factor equal to 0.915.

Conclusion: HEMOCUE is a fast, easy method that can provide us with an accurate hemoglobin measurement in polytrauma victims with hemorrhagic shock in the emergency department, with enormous time savings that could improve their prognosis

#22978 : Recurrent orchitis versus Behcet's disease

Authors:

Maria de la Peña Lopez-Galindo (1), María de la Peña Lopez-Galindo (1), beatriz sierra bergua (2), Carlos Morales (1), Maria Jose Jimenez (1), Sergio Aznar (1)

1. Emergency Department, Hospital Clínico Universitario Lozano Blesa. Zaragoza . Spain, Zaragoza, Spain
2. emergency department, hospital clinico universitario Lozano Blesa, zaragoza, Spain

Keywords: Orchitis, Behcet disease

Abstract :

We present the case of a patient, male, young, who went to the Emergency Service of our Hospital, for presenting recurrent episodes of orchitis with negative urine cultures.

After carrying out a detailed anamnesis, it was suspected that the process could be inflammatory and not infectious. The patient was diagnosed after performing Behcet's disease tests.

Behçet's disease is an inflammatory disorder that can include a vasculitis of small and large arteries and / or veins. Arterial and venous thrombosis can also occur.

This disease occurs in both sexes, although it tends to be more severe in men, and usually begins between the ages of 20 and 30. Sometimes it can appear in children. The incidence varies according to geographic location. Behçet's disease is more common on the Silk Road, from the Mediterranean to China; it is rare in the United States.

The cause is unknown. Immune (including an autoimmune etiology) and viral or bacterial causes have been suggested, and HLA-B51 is a major risk factor. The prevalence of an HLA-B51 allele is > 15% among people in Europe, the Middle East, and the Far East, but is low or absent among people from Africa, Oceania, and South America.

Behçet's disease should be suspected in young adults with recurrent aphthous mouth ulcers, unexplained eye signs, or genital ulcers. The diagnosis of Behçet's disease is clinical and often delayed since many of the manifestations are nonspecific and can be insidious.

International diagnostic criteria include recurrent cold sores (3 times in 1 year) and two of the following: recurrent genital ulcers, eye injuries, skin lesions.

Positive pathergy test without other clinical explanation

Laboratory studies should be performed (eg, complete blood count, erythrocyte sedimentation or C-reactive protein, serum albumin, and total protein levels). Results are nonspecific but characteristic of inflammatory disease (elevated erythrocyte sedimentation, C-reactive protein and α 2-globulins and γ -globulins; mild leukocytosis).

#22979 : Fifteen years of experience on Immediate Stroke Life Support in Japan

Authors:

Hiroshi Okudera (1), Masahiro Wakasugi (1), Tetsuya Sakamoto (2), Yasuhiko Ajimi (3), Mizuho Ii (4)

1. Department of Crisis Medicine (Emergency and Disaster Medicine), Graduate School of Medicine, University of Toyama, Toyama, Japan
2. Department of Emergency Medicine, Teikyo University School of Medicine, Tokyo, Japan
3. , none, Tokyo, Japan
4. Department of Nursing, Graduate School of Medicine, University of Toyama, Toyama, Japan

Keywords: Immediate Stroke Life Support, ISLS, Acute Stroke, Emergency Room, Simulation Training

Abstract :**Introduction**

In 2005, Japanese Association for Acute Medicine (JAAM) decided to make an exclusively designed simulation training course on the initial treatment on Stroke. JAAM developed the course with Japanese Congress on Neurological Emergencies (JCNE) and named the course Immediate Stroke Life Support (ISLS) in 2006. We, the ISLS Committee, operated the ISLS course with a focus on maintaining quality, then performed revisions on the course.

Materials and Method

ISLS is designed as a half day course with 4 modules. Basic structure of General Instructive Object (GIO) and Specific Behavioral Objectives (SBOs) is as follows:

GIO: Learn an appropriate response to acute stroke patients and an appropriate team management in first one hour in Emergency Room (ER).

SBOs: 1) Evaluation of consciousness level using Glasgow Coma Scale (GCS) and Emergency Coma Scale (ECS); 2) Evaluation of neurological condition using several stroke scale and National Institutes of Health Stroke Scale (NIHSS); 3) Skill check of neuro-resuscitation with high-fidelity simulator; 4) Systemic management of acute stroke patients using Clinical Map (CM).

Results and Discussion

Until the end of 2019, 921 ISLS courses were performed with 17,054 participants. Textbook of ISLS has been revised 4 times due to the update of Stroke Guidelines and Resuscitation Guidelines. The participation of related societies has increased such as Japanese Society of Emergency Medicine since 2013 revision, and Japanese Association of Emergency Nursing since 2018 revision. Based on ISLS, several courses were derived such as Prehospital Stroke Life Support (PSLS) for prehospital emergency staff in 2006, Primary Neurosurgical Life Support (PNLS) with The Japan Society of Neurosurgical Emergency for neurosurgical emergency team in 2008, Prehospital Coma Evaluation and Care (PCEC) for prehospital staff in 2008 and Advanced Coma Evaluation and Care for ER staff in 2011. These courses were called as Neuro-resuscitation courses.

Furthermore, in 2018, We published the Instruction Guidebook for Neuroresuscitation Simulation Trainings was published for all courses in this field.

#22980 : Evaluation of stroke diagnostics using FAST algorithm in emergency medicine

Authors:

Christian Jonas Reuling (1), Felix Bernhard (2), Erich Wranze-Bielefeld (3), Andreas Jerrentrup (4), Lars Timmermann (2), Susanne Betz (4)

1. Department of Emergency Medicine, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Gießen, Germany
2. Department of Neurology, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Marburg, Germany
3. Medical Director EMS, Country Marburg-Biedenkopf, Germany, Marburg, Germany
4. Department of Emergency Medicine, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Marburg, Germany

Keywords: stroke, diagnostics, FAST-algorithm, pre-hospital

Abstract :**Background:**

The early diagnosis of stroke remains a challenge in emergency medicine. In Germany, the FAST (F=Face; A=Arms; S=Speech and T=Time) algorithm – a structured assessment of several focal neurological deficits – is currently used to determine its probability. However, a systematic validation and evaluation of the algorithm's performance is lacking. We thus aimed to evaluate the predictive value of the FAST algorithm in a retrospective analysis.

Methods:

The presented retrospective mono-center validation- study included all patients who were admitted to the emergency department of a single neurology and university hospital in the county Marburg-Biedenkopf with the suspected diagnosis stroke within less than 6 hours" over a eighteen-month period (from July 2018 to December 2019) for analysis. Results of preclinical examination, performed by mainly non-physician staff, were retrieved from emergency service protocols.

Immediately after arrival at the emergency room of the university hospital Marburg, neurological examinations have been investigated by medical doctors of the department for neurology, following well established standards of neurological examination of the National Institutes of Health Stroke Scale (NIHSS). In case of suspicion of a stroke after clinical examination, diagnose was validated by MRI (magnetic resonance imaging). Sensitivity, specificity, and positive likelihood ratio were calculated as recommended by Wilson and Brown.

Results:

1278 patients were included in our analysis and have been examined in emergency room. The pre-clinical investigation of the FAST algorithm predicted a stroke with a sensitivity of 64% (95% CI 60-69%, n = 1126) and a specificity of 51% (95% CI 48-55%, n = 1126). The positive likelihood ratio was 1.347. Within the clinical setting, sensitivity increased to 77% (95% CI 73-80%, n = 1278) with a specificity of 60% (95% CI 56-63%, n = 1278) and a likelihood ratio of 1.945.

Discussion & Conclusion:

While modest specificity might be tolerable in the present setting, the FAST-algorithm provided

low sensitivity for correct detection of a stroke within the analysed cohort. Although, applying the same algorithm, results of pre-clinical examination considerably diverged from results of the clinical examination, following NIHSS. Since cerebral ischemic stroke is a time-sensitive diagnosis, the development of highly sensitive tests is crucially necessary to enable rapid interventions of treatment. Therefore, an advanced algorithm is desperately needed for further improvement of stroke-diagnostics in emergency medicine.

#22981 : Seizures and sepsis. Think outside the brain. A case report.

Authors:

Aysha Al Remeithi (1), Ayesha Al Memari (1), Hasan Qayyum (1)

1. Emergency Department, SSMC Abu Dhabi, Abu Dhabi, United Arab Emirates

Keywords: sepsis, seizure, brain dysfunction, encephalopathy

Abstract :

Patient consent obtained and identifiable details anonymised.

-

Case Report

A middle-aged female presented to our Emergency Department with a presenting complaint of seizures. She had no significant medical background and was not on any regular medication. She was brought to us by ambulance and the paramedics informed us she had sustained 3 self terminating seizures enroute. On our assessment, her vital signs revealed a tachycardia, tachypnea, and a normal temperature. Her Glasgow coma scale was recorded at 10 (E3 M2 V5 based on eyes opening to a verbal stimulus, incomprehensible sounds, and localizing to pain) with normal pupillary responses.

Systemic examination showed no nuchal rigidity or neurological localizing signs. However the abdomen was diffusely tender on palpation . A venous blood gas on arrival to the department showed metabolic acidosis with hyperlactemia which subsequently normalized on repeat testing. Her electrolytes were within normal limits.

12 lead ECG showed a sinus tachycardia at 110 /min with normal intervals.

Collateral history from the patients' colleague revealed she had complained of abdominal pain and left shoulder pain a day prior. In view of this history , a point of care ultrasound abdomen was performed which showed a small amount of fluid in the right upper quadrant. A point of care human chorionic gonadotropin test was negative.

In view of the tachycardia, tachypnea, metabolic acidosis and seizures, empirical antibiotics were given to the patient and they were loaded with intravenous levetiracetam.

The patient was then sent for computerised tomographic imaging of the brain and abdomen/pelvis which showed no abnormalities in the brain but significant findings of free gas throughout the abdomen consistent with bowel perforation and a small amount of free fluid in the right flank area.

The patient underwent an urgent explorative laparoscopy revealing a gastric antral perforation with peritonitis which was repaired using omentum.

She made a full recovery without any complications and prior to discharge ,had an electroencephalogram recording which was within normal limits.

Misleading elements

Seizures presumed to be neurological in origin.

At the time of presentation, when dealing with this seizing patient, we considered the differential diagnoses of intracranial hemorrhage, epilepsy with poor compliance to treatment, suspected overdose, unexpected pregnancy and eclampsia, electrolyte abnormalities, and finally sepsis.

Once we had further collateral information, we evaluated the abdomen with a point of care ultrasound scan which revealed free fluid in the Morrison's pouch. As the patient was not hypotensive at this stage, we cross matched her for blood and proceeded to CT imaging which clinched out diagnosis.

Educational/Clinical Relevance

Our case is interesting because it demonstrates an atypical presentation of seizure etiology of extracranial cause. A detailed collateral history in the seizure patient is essential to explore differentials that require time critical interventions in the emergency department. It is also worth remembering a detailed clinical assessment by the emergency physician will avoid them falling trap to cognitive biases like anchoring bias. Sepsis induced brain dysfunction has an increased morbidity and mortality and can often be multifactorial.

Attachment: Al Remeithi HQ edit .pdf

#22982 : Cardiac arrest from neurological cause: epidemiology, clinical features and outcome in a cohort study

Authors:

Peiman Nazerian (1), Michele Montuori (2), De Stefano Giuliano (1), Paolo Fucini (1), Caterina Cenci (1), Paolo Bernardi (1), Francesca Innocenti (2), Adriano Peris (3), Chiara Lazzeri (3), Stefano Grifoni (1)

1. Emergency Department, AOU Careggi, Firenze, Italy

2. High-Dependency Unit, Department of Clinical and Experimental Medicine, AOU Careggi, Firenze, Italy

3. Trauma Emergency ICU, ECMO Referral Center, AOU Careggi, Firenze, Italy

Keywords: Cardiac arrest, Out of hospital cardiac arrest, Neurological

Abstract :**Background**

Cardiac arrest (CA) is a condition with high mortality. Cardiac causes of out-of-hospital CA (OHCA) have been widely evaluated, while there are few studies regarding neurologic causes of OHCA. The aim of this study was to compare OHCA due to neurological causes vs other causes.

Methods

We retrospectively evaluated all medical records of patients, arrived with refractory CA or post-ROSC between the 1st of January 2017 and the 31st of December 2018. Two clinicians established the cause of CA. OHCA due to neurological causes was compared with OHCA due to other causes regarding prevalence, clinical features, mortality and the number of potential donors.

Results

Two hundred and eighty patients suffered of OHCA and 21 cases were due to neurologic causes (7.5%). Neurologic causes represented the third cause of OHCA after cardiac causes (56.8%) and hypoxia (9.6%). Between neurologic causes of CA, 8 (38.1%) were subarachnoid hemorrhages, 8 (38.1%) intracerebral hemorrhages, 2 (9.5%) ischemic strokes, 2 (9.5%) spinal cord injuries and 1 (4.8%) status epilepticus. Concerning clinical features, neurologic symptoms ($p < 0.0001$) like headache, convulsions, aphasia and other focal neurological deficits preceding CA were significantly more frequent in patients with a neurologic causes of CA while non neurologic symptoms like chest pain ($p = 0.009$) and dyspnea ($p = 0.027$) more frequently preceded CA in patients with other causes. The initial electrocardiogram rhythm was not shockable more frequently in patients with neurologic causes of OHCA vs other causes (91% vs 54.1%, $p = 0.001$). Between the two groups, mortality was significantly higher in the group with neurologic causes of OHCA (90.5% vs 64.5%, $p = 0.015$). The number of potential donors was larger in patients with neurologic causes, but without a significantly difference between the two groups (47.6% vs 28.9, $p = 0.073$).

Discussion & Conclusions

The majority of studies about causes of CA investigated cardiological diseases, which represent the most common etiologies. Neurologic causes represent the third cause of OHCA. Patients with a neurologic cause more frequently have a non-shockable rhythm and over 50% have neurologic

symptoms before CA. Mortality and number of potential donors are more frequent in OHCA from neurologic causes vs OHCA from other causes.

Trial Registration / Funding Information (only) :

Not needed

#22984 : An abdominal mass in a six year old? How bezoar!**Authors:**

Brian MacCarthy (1)

1. Emergency Department, University Hospital Limerick, Limerick, Ireland

Keywords: Bezoar, trichobezoar, trichotillomania, trichophagia, abdominal mass

Plain films

Patient images are involved and I have adequate permission to use them

Abstract :

We present the case of a 6-year-old girl, who was referred to the emergency department (ED) by her general practitioner (GP) with an abdominal mass. She had no past medical history and a normal development to date.

She had attended the out-of-hours GP four days previously with epigastric pain and reduced oral intake. Examination at the time revealed the mass; she was managed conservatively with simple oral analgesia and followed up with her usual GP.

On arrival she appeared well, vitals were within normal limits and she was pain free. The history revealed she had a three month history of trichotillomania with trichophagia which coincided with the birth of twins in her family. She also had a four day history of halitosis.

Abdominal examination revealed a large, non-tender, well circumscribed mass in the epigastrium, with some crepitus. Laboratory investigations were normal. An abdominal x-ray revealed a large intra-luminal mass filling most of the stomach.

She was referred to the surgical team and was subsequently transferred to a tertiary paediatric hospital the next day. She underwent a laparotomy to remove the mass which was confirmed to be a trichobezoar. She had an uneventful post-operative recovery and was discharged after five days.

During her admission child-psychiatry were consulted regarding her trichotillomania and trichophagia which were diagnosed as being secondary to anxiety. She has since been managed with play therapy and has not had any further instances of trichophagia.

Trichobezoars are ingestional foreign bodies composed of hair. Rapunzel syndrome is the rare form which extends beyond the stomach into the small intestine. Trichobezoars are rare causes of abdominal masses; only three have been reported in Ireland.

Gastric bezoars have a reported recurrence rate of up to 20%; therefore it is critical to treat the underlying cause of the condition.



Attachment: Intra-Op Cropped.jpg

#22985 : Contribution of the CUNGI score in the screening of post traumatic stress states in the emergency department**Authors:**

marwene kacemi (1), lotfi boukadida (1), nada ilahi (1), ahmed amin abri (1), houda ben salah (1), asma zorgati (1), riadh boukef (1)

1. urgences sahloul, CHU sahloul, sousse, Tunisia

Keywords: CUNGI score, post traumatic stress, PCL-5 score

Abstract :

Introduction : Post-traumatic stress disorder (PTSD) is more common than you might think. This peculiar and poorly understood problem affects, according to studies, 6 to 10% of the population. The CUNGI STRESS rating scale measures the general reaction of the individual to stressors: the higher the score, the greater the stress.

The objective of this work is to specify the contribution of the CUNGI score in the screening of post traumatic stress states in the emergency department of sahloul.

Material and methods : It is a prospective descriptive and analytical study, carried out in the emergency department Sahloul, over a period of 1 year. We included all patients having been exposed to a potentially traumatic event likely to be the source of acute PTSD, meeting criterion A of the definition of PTSD according to DSM-V and having a stress score (brief Cungi stress assessment scale 1997) calculated between D1 and D3 and estimated as moderate or high, having a score > 30.

Results : 204 patients were included. The mean age was 36.6 ± 12 years. The traumatic events found were: aggression in 51.5% of cases, road accident (RA) in 42.6% of cases. 100% of our patients were directly involved in these events. The average duration of the traumatic event experienced by the patients was: 9.25 ± 8 min. The average Injury Severity Score (ISS) is 11.15 ± 8 . The mean screening score (CUNGI) was 43.1 ± 7 . The mean PCL-5 total score was 59.2 ± 25 . The diagnosis of PTSD was retained in 122 of the patients (59.8% of the population). To assess the importance of the Cungi score as a screening score, we proceeded to check whether there is an association or dependence between the Cungi screening score and the PCL-5 diagnostic score, Pearson's r correlation was used as the correlation test. This test shows a positive correlation between the Cungi score and the PCL-5 with a p of 0.032 and a correlation index of 0.159

Conclusion : A high Cungi score has been observed in patients with positive PTSD. This score therefore allows screening for PTSD

#22986 : An atrial fibrillation patient with multiple thrombi in left atrium and pulmonary vein after Maze procedure and mitral valve replacement surgery: a case report.

Authors:

Wei-Lun Chen (1), Tzu-Yao Hung (1)

1. Emergency Department, Taipei City Hospital, Zhong-Xing branch, Taipei, Taiwan, China

Keywords: atrial fibrillation, left atrium thrombi, pulmonary vein thrombi, Maze procedure

CT scans

Patient images are involved and I have adequate permission to use them

Abstract :**Background**

Left atrial thrombus is a rare clinical condition and is known to be mainly caused by atrial fibrillation (Af) and mitral valve disease. Thrombus can mostly be found in left atrial appendage and in some uncommon cases also involves the pulmonary vein. Moreover, thrombus might also cause systemic thromboembolism to the end-organ, e.g. ischemic stroke or ischemic bowel disease. Anti-coagulant agents can be used to prevent further thrombus formation. Besides conservative treatment for Af, Cox-maze procedure is a surgical treatment for refractory atrial fibrillation. If the lesion comes from antrum of pulmonary vein, the surgery is usually done with complete pulmonary vein isolation. A few case reports [1] revealed that intra-atrial thrombus was found after a maze surgery which was caused by many factors including atrial damage by surgery and recurrent Af.

Case scenario:

An 80 year-old male had a medical history of coronary artery disease and ruptured mitral valve chordae. Therefore, the patient underwent coronary artery bypass graft and mitral valve repair with tissue valve replacement. And due to persisting atrial fibrillation, he then took the Maze surgery with pulmonary veins isolation and also took anti-coagulant and anti-platelet agents. The patient was sent to our emergency department (ED) with dyspnea which gradually worsened in the past four days. There were no fever or respiratory tract infection symptoms. Physical examination revealed a wheezing breathing sound over the bilateral lung field, pitting edema over legs and hypoxia with 93% of oxyhemoglobin saturation by pulse oximetry (SpO₂). Electrocardiogram (ECG) showed Af. The medical team decided to perform a Point-of-Care Ultrasound (POCUS) and found diffuse lung edema and poor cardiac contractility. Furthermore, a large soft tissue density lesion (3.12 x 4.04 cm) was found in the left atrium and thrombus was suspected. It is rare to find a large thrombus in the left atrium even among Af patients. Besides, clinical and echocardiogram may not be thorough enough to distinguish thrombus from myxoma. A computed tomography scan (CT scan) with contrast was performed and showed there were multiple thrombi in the left atrium which extended to the pulmonary vein causing pulmonary vein narrowing. In some case reports, pulmonary artery pressure might increase and result in lung congestion with systemic hypotension and low cardiac output. The clinical manifestations could vary, but mainly show a decrease in cardiac function or even cardiogenic shock. In this case, the patient seemed to suffer from acute heart failure with decompensation. Even though this is an Af patient under the anti-coagulant therapy with previous ablation treatment or mitral valve replacement, this case should also be considered as a high risk for thrombus formation in the left atrium.

Conclusion & perspectives :

Atrial fibrillation is a major cause of left atrium thrombus formation. Although the patient is under anti-coagulant therapy and underwent previous cardiac surgery for ablation or valve replacement, this case should still have a high risk of causing an even more severe thrombus in the left atrium and pulmonary vein.



#22987 : Hepatic portal venous gas found in ischemia bowel and perforation in a patient with encapsulating peritoneal sclerosis

Authors:

Ching-I Lee (1)

1. , , Kaohsiung, Taiwan, China

Keywords: hepatic portal venous gas, encapsulating peritoneal sclerosis, perforation, ischemia

Plain films

Patient images are involved and I have adequate permission to use them

Abstract :

Encapsulating peritoneal sclerosis (EPS) is serious complication in patients under peritoneal dialysis (PD). The incidence of EPS was low, but the rate of mortality was high. In this case, a 47-year-old female with end stage renal disease under PD for 8 years and switched to hemodialysis for six years, who suffered from sudden onset of acute abdominal pain over right abdomen during defecation and developed to diffuse abdominal pain with rebounding pain after 2 hours while arriving emergency room. Her abdominal X ray showed hepatic portal venous gas in 2 hours and her abdominal computed tomography showed ischemia bowel with hollow organ perforation. Emergent exploratory laparotomy was done, but difficulty identifying perforation site due to severe EPS. Severe sepsis after surgical intervention developed despite antibiotics treatment, and she passed away 12 days after this episode.



#22988 : Tetanus prophylaxis: phase two or “how can we improve”

Authors:

Gaia Bavestrello Piccini (1), Jean-Christophe Cavenaile (1)

1. Emergency Department, CHU Brugmann, Brussels, Belgium

Keywords: tetanus, improvement, wound, vaccination, prophylaxis, POCT, Belgium, emergency

Abstract :

Introduction: Patients presenting to the Emergency Department (ED) with wounds prone to tetanus infection, receive prophylaxis according their immune status, which in our ED, can be known through the use of a Point of Care Testing (POCT), the Tetanos Quick Stick (TQS).

In July 2018, we conducted an observational study on the quality of the prophylactic measures adopted in our ED for tetanus prevention, in order to observe whether the guidelines were correctly followed.

We observed that, among the 942 patients who tested negative to the rapid test (TQS), and were therefore not protected, 161 (17.1%) did not receive a booster vaccination.

We hence carried out an awareness campaign, through several seminars displaying the results of the study, in order to raise awareness among the healthcare practitioners (doctors and nurses) involved in the vaccination of patients in our ED.

In order to observe whether an improvement in the quality of healthcare had occurred, we re-conducted the study 12 months later.

Materials and Methods: We took into consideration the data of 2907 patients who referred to the ED of the Brugmann University Hospital between the 01/07/2018 and the 30/06/2019 with wounds potentially at risk for tetanus infection.

Results: In the 12 months covered by the study, 2907 patients presented with wounds at risk; of these 2907 patients, 858 (29.5%) were not protected against tetanus infection, while 2049 (70.5%) were still immunized.

Among the 858 non protected patients, 111 patients didn't receive a booster (12.9%).

On the other side, among the already vaccinated patients, 19 (0.93%) received an unmotivated vaccine dose.

Discussion: Tetanus prophylaxis guidelines in our ED are simple and well defined, but nonetheless they are often not respected.

An amelioration has been observed after the awareness campaign has been carried out.

It is also important to take into account the new practitioners, especially in the EDs of University Hospitals which have a greater turnover of medical staff, who are sometimes not aware of the guidelines in vigor in the ED in which they practice.

As it has been observed, guidelines indeed vary from region to region and sometimes even from hospital to hospital.

Conclusion: A continuous training of the personnel allows a remarkable improvement in the quality of healthcare and prevention.

In conclusion, a standardization of the guidelines for tetanus prevention, should be the final aim in order to improve healthcare in the EDs.

#22989 : Predictive factors for re-consultation in the emergency department**Authors:**

khouloud romdhane (1), rahma jaballah (1), anissa rzig (1), arij bakir (1), rym youssef (1), houda ben salah (1), asma zorgati (1), riadh boukef (1)

1. urgences sahloul, CHU sahloul, sousse, Tunisia

Keywords: re-consultation, emergency department

Abstract :

Introduction Reconsulting in the emergency room is known to be a factor in poor prognosis, leading to health costs and mobilizing staff. A critical analysis of the consulting patients is likely to improve medical practices in the emergency department. The objective of the study is to identify the predictors factors of readmission to emergency departments

Materials and methods This is a retrospective study made between January 2016 and June 2018, involving patients treated by the emergency team and who have reconsulted at least once in a period less than or equal to 7 days. compared to the first consultation.

Results During the study period, 145 patients met the inclusion criteria: 58% men and 42% women, the mean age was 46 ± 18 years. The majority of patients arrived at the emergency department on their own at the two consultations. 72% of the population consulted the second time for the same reason as the first consultation, the average time between the two consultations is 5 ± 3 days. The worsening state of health in these patients was observed in 12% of the study population, 4.2% of whom were admitted to various departments. 25% of patients were diagnosed differently in the two consultations. The main causes of reconsultation are the lack of referral between doctors and treatment not in accordance with the final diagnosis.

Conclusion To minimize the rate of reconsultation of patients in emergency departments, a good handover between the responsible physicians is absolutely necessary.

#22990 : acute aortic syndrome

Authors:

Asma Khalfallah (1)

1. Taher Sfar Mahdia, TUNISIA, ksouressef, Tunisia

Keywords: pain,aorta, diisection, ultrasound, bedside**Abstract :**

introduction: Delayed presentation of acute aortic syndrome is plagued by high mortality and morbidity

A 42-year-old man with medical history of asthma came to emergency department for shortness of breath. examination on admission showed 90% saturation tachaycardia at 120 beats per minute systolic arterial pressure at 170 mmHg and diastolic arterial pressure at 90mmHg the patient was apyretic and conscious . Physical examination : at pulmonary auscultation there are wheezing rales and a systolic murmur at cardiac auscultation no signs of heart failure no peripheral signs of shock, a 12-lead ECG showed sinus tachycardia without evidence of ischaemia. the case was treated as a severe asthma attack.

A chest radiograph showed a aortic button protrusion and a bedside a heart ultrasound showed pathognomonic findings of acute type A aortic dissection (figure). The patient underwent urgent repair of the aortic root. the patient died during transport for the operating room. The location of the intimal tear in acute type A aortic dissection is in the immediate vicinity of the sinuses of Valsalva 65% of the time ant it's an intense surgical emergency.

Conclusion: The sensitivity of cardiac ultrasound is between 78% and 100%; its specificity ranges from 87% to 96%. Cardiac ultrasound is a valuable diagnostic tool in cases when more sensitive techniques (transoesophageal echocardiography, CT, magnetic resonance angiography) are not readily available or are impractical.

#22991 : Review of prehospital intraosseous access in trauma patients and cardiac arrest patients.

Authors:

Irada Melega (1), Dmitrijs Sergejevs (2)

1. State Emergency Medical Service, P.Stradins clinical university , Riga, Latvia
2. State Emergency Medical Service, State Emergency Medical Service, Riga, Latvia

Abstract :**Background:**

Different IO techniques have been used by our State Emergency Medical Service (SEMS) of Latvia since 2011. The aim of research is to evaluate the use of intraosseous access in prehospital emergency situations among trauma patients and cardiac arrest patients.

Patients & Methods :

Medical records of patients with established IO access in prehospital stage in Latvia from January 1, 2017 to December 31, 2019 were analyzed.

The age of patients was from 14 days to 97 years (average 60.8).

Intraosseous access was performed with B.I.G. or EZ-IO® insertions.

Data collection:

SEMS of Latvia database was analyzed and records of IO access were selected.

622 cases of IO access among cardiac arrest patients, trauma patients and others were analyzed in the research.

Records were filtered by age, reason, IO insertion to overall amount of cases. Further, the data was divided into three categories: cardiac arrest, trauma and other reason. The data was converted to percentage in order to display and analyze the most common reason of using an IO access.

Results and discussions: In 278 (45%) cases from 622 IO was established to patients with cardiac arrest during CPR, 112 (18%) to trauma patients, 232 (37%) due to other condition.

For 46 (16.5%) cardiac arrest patients and for 10 (9%) trauma patients IO access was used as the first choice for administering medications and IV access was established later as well. For all patients with other condition IO was the only vascular access technique used.

Overall number of trauma patients during 3 year period was 217 039. In 24.75% (n=53717) cases stable vascular access was established *en route* to hospital. Rate of IO access performed in trauma patients was 0.21% (n=112).

Overall number of CPR performed during 3 year period was 5155. IO access was used in 5.4% (n=278) cases of CPR.

Referring to the publication of Takahisa Kawano (2017), statistically, the rate of 5% of IO establishment during CPR is similar to the data by the American College of Emergency Physicians in a period of 3 years, considering the amount of patients with same reason was 60% higher during the period of 2007 – 2009.

Conclusion:

IO was established rarely for trauma patients, mostly in patients with severe trauma and shock. Intravenous route for administering of medications was the most common in trauma patients.

IO for cardiac arrest patients was performed 25 times more often than for trauma patients, but the incidence of IO during CPR is still low (5.4%). Further research and additional data collection is needed to understand factors influencing rare usage of IO access during CPR.

IO technique was considered both as the main and as an additional (16.5%) for administering of medications for cardiac arrest patients.

Acknowledgement: SEMS of Latvia data base 2017-2019; Takahisa Kawano, MD, PhD, Intraosseous Vascular Access Is Associated With Lower Survival and Neurologic Recovery Among Patients With Out-of-Hospital Cardiac Arrest, 2017 by the American College of Emergency Physicians.

#22993 : Observational study comparing the number of patient readmissions and episodes at the emergency department prior to and after the implementation of the fast-track protocol in total knee arthroplasty

Authors:

Marta Molina (1), María Cuenca (2), Borja Segarra (1)

1. COT, Hospital Universitario de La Ribera, Alzira, Spain

2. , , Alzira, Spain

Keywords: ORTHOPEDICS, KNEE ARTHROPLASTIC

Abstract :

BACKGROUND:

The increasing incidence of knee osteoarthritis and the high cost that implies its treatment with total knee arthroplasty (TKA) has prompted the development of fast-track protocols that enhance patient recovery. There is evidence that points out the benefits of this protocol for the Orthopaedic Surgery Departments whereas the impact on other departments such as the Emergency Department has not been deeply studied.

OBJECTIVES:

To analyse the differences in patient readmissions and episodes at the Emergency Department of patients undergoing TKA who request surgery-related emergency care in the period prior to and after the implementation of the fast-track protocol.

MATERIAL AND METHODS:

Retrospective observational cohort study conducted at Hospital Universitario de La Ribera.

Cohorts were selected from all patients who underwent TKA between the period October 2017 and October 2018 (after fast track implementation) and those between October 2015 and October 2016 (prior to fast track implementation). The follow-up period was one year.

Sociodemographic characteristics of the patients, demand for urgent care, number of emergency room visits were studied and main reason for consultation were studied.

Single-variable and double-variable analyses were performed using chi-square statistics. Values of $p < 0.05$ were considered significant.

RESULTS:

A homogeneous sample of 777 patients was obtained, mainly woman (67.7%) with a mean age of 70.5 years old. 134 patients (17.24%) requested urgent care with a total of 192 visits to the Emergency Department on a one-year follow-up. The main reason for consultation was post-surgical pain.

The post-protocol and pre-protocol implementation values under study were:

Patient readmission at the Emergency Department during the one-year follow-up: 89 (21,9%) vs. 45 (12,2%) ($p < 0,0001$).

Patient readmission during the first 30 days after surgery: 56 (31,8%) vs. 32 (8,6%) ($p = 0,025$).

Patient readmission during the first 21 days after surgery: 43 (10,6%) vs. 28 (7,6%) ($p = 0,148$).

Number of visits done by those patients within the first year after surgery: 118 (61,5%) vs. 74 (38,5%) ($p < 0,0001$).

Number of visits done by those patients within the first 30 days after surgery: 62 (63,3%) vs. 36 (36,7%) ($p < 0,0001$).

Number of visits done by those patients within the first 21 days after surgery: 45 (58,4%) vs. 32 (41,6%) ($p = 0,036$).

CONCLUSION

Despite the benefits exposed by few authors in relation to the decrease in the patient's average length of stay after surgery, the need for transfusion and the non-increasing risk of infection caused by the implementation of the fast-track in patients undergoing TKA, its implementation has supposed an increase in the number of patients and the number of visits they perform to our Emergency Department. The main reason for this is post-surgical pain.

#22994 : UTILITY OF THE NEWS, qSOFA and GAP SCALES FOR THE ASSESSMENT OF HOSPITALIZATION IN AN EMERGENCY DEPARTMENT ACCORDING TO ITS SYNDROMIC PATHOLOGY
Authors:

Raul Lopez Izquierdo (1), Francisco Martín Rodríguez (2), Jorge García Criado (3), Carlos Del Pozo Vegas (4), Julio Cesar Santos Pastor (5), Virginia Carbajosa Rodríguez (6), Laura Fadrique Millán (6), Jesus Alvarez Manzanares (6), Pablo Del Brio Ibañez (7), Silvia Benito Bernal (7), Carlos Jaime Avellaneda Martínez (5), Cristina Bolado Jimenez (4), Raquel Cristobal de la Cruz (5), Hilda Fernandez Ovalle (4), Ana Belen Fraile Vicente (3), Noelia Haro Mellado (3), Ana Belen Lopez Tarazaga (4), Alicia Martín Aires (3), Teresa Martín Marcos (6), Alvaro Muñoz Galindo (3), Noelia Otones Consuegra (5), Beatriz Torre Diez (7), Ana Isabel Valderrey Mielgo (4), Tony Giancarlo Vasquez del Aguila (4), M^a Antonia Udaondo Cascante (8)

1. Emergency Department, Rio Hortega University Hospital, Valladolid, Spain
2. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
3. Emergency Department, Complejo Asistencial Universitario de Salamanca, Salamanca, Spain
4. Emergency Department, Hospital Clínico Universitario de Valladolid., Valladolid, Spain
5. Emergency Department, Complejo Hospitalario Segovia. , Segovia, Spain
6. Emergency Department, Rio Hortega University Hospital, Valladolid, Spain
7. Emergency Department, Hospital Universitario Rio Hortega. Valladolid, Valladolid, Spain
8. Radiology department, University Hospital of Burgos, Burgos, Spain

Keywords: scores, prognosis, emergency department

Abstract :**Background.**

The severity scales are a tool that can help decision-making in the emergency services, complementing the different structured triage systems. Its usefulness should be known according to the pathology presented by each patient and thus be able to individualize its use.

Aim

To know the usefulness of 3 severity scales: NEWS, qSOFA and GAP according to the type of pathology.

Material and methods:

Multicentric prospective observational longitudinal study, January 21st and February 22nd, March 20th, April 24th, May 27th, 2019 (8:00-22:00) in four Spanish ED and had a triage level II or III according to the Spanish triage system. It was considered that a patient fulfilled criteria to be included in the study if he had been attended by ED study and did not meet any exclusion criteria: <18 years, I, IV and V level in STS, pregnant women, psychiatric pathology, terminal pathology or not sign the informed consent. At the arrival of the patient, we determined the demographic variables, score on the NEWS, qSOFA, GAP. Exclusion criteria: <18 years, not sign the informed consent. The main dependent variable was hospitalization. Syndrome analyzed: digestive, respiratory, neurological, cardiovascular, nephrology-urology, traumatology, and others. The area under the curve (AUC) of the receiver operating characteristic (ROC) (95% CI) of different scores was calculated to both dependent variables. Software: SPSS 24.00. $p < 0.05$.

Results:

N: 941 patients. Median age: 72 (RIQ 54-84) years. female: 481 (51.1)%. Hospitalization: 284 (30.2%) .; syndromic pathology: digestive: 150 (15.9%), respiratory: 188 (20.0%), neurology: 132 (14.0%), cardiovascular: 196 (20.8%), nephro-urological: 114 (12.1%), trauma: 26 (2.8%); others: 135 (14.3%); Hospitalization according to syndrome: digestive: 49 (32.7%), pulmonology: 91 (48.4%), neurology: 25 (18.9%), cardiovascular: 53 (27.0%), nephro-urological: 23 (20.0%), trauma: 11 (42.3%); others: 32 (23.7%) ($p < 0.001$). AUROC according to the syndrome: digestive: NEWS: 0.672 ($p < 0.001$), qSOFA: 0.567 ($p > 0.05$), GAP: 0.750 ($p < 0.001$), respiratory: NEWS: 0.691 ($p < 0.001$), qSOFA: 0.574 ($p > 0.05$), GAP: 0.620 ($p < 0.05$); neurological: NEWS: 0.535 ($p > 0.05$), qSOFA: 0.601 ($p > 0.05$), GAP: 0.723 ($p < 0.001$); cardiovascular: NEWS: 0.735 ($p < 0.001$), qSOFA: 0.558 ($p > 0.05$), GAP: 0.676 ($p < 0.001$); nephrology-urology: NEWS: 0.783 ($p < 0.001$), qSOFA: 0.584 ($p > 0.05$), GAP: 0.663 ($p < 0.05$); traumatology: NEWS: 0.609 ($p > 0.05$), qSOFA: 0.615 ($p > 0.05$), GAP: 0.664 ($p > 0.05$); others: NEWS: 0.686 ($p < 0.001$), qSOFA: 0.539 ($p > 0.05$), GAP: 0.604 ($p > 0.05$);

Conclusions:

Of the severity scales analyzed, the NEWS and the GAP are useful to assess hospital admission in most of the syndromes studied. However, qSOFA is not useful for any of the syndromes studied. For trauma pathology, none of the scales studied serves to predict admission upon arrival at the ED.

Trial Registration / Funding Information (only) :

The study was approved by the Research Ethics Committee of all participating centers. All patients (or guardians) signed informed consent, including consent for data sharing. This research has received support from the Gerencia Regional de Salud (SACYL) for research projects in Biomedicine, Healthcare Management and Healthcare Care, with registration number GRS 1711/A/18, principal investigator: Raúl Lopez Izquierdo, as part of the "Usefulness of the use of the early gravity scales and the lactic acid in the triaje the hospital emergency services"

#22995 : Diagnostic radiation induced iatrogenic skin injury.

Authors:

Matthew Inwood (1)

1. Department of Emergency Medicine, University of Alberta Hospital, Edmonton, Canada

Keywords: radiation, rash, dermatology, patient safety, iatrogenic injury, diagnostic radiology, delayed presentation, emergency department diagnosis

Abstract :

A 61 year old man presented to an emergency department with a 1 month history of a painful rash at his mid right back. Prior to the onset of the rash, he experienced approximately 5 days of dull pain at his right thoracic back at approximately the T8 level. He subsequently developed a 2 cm diameter erythematous rash at the same location, which enlarged over time. Over a 1 month period, he consulted numerous primary care providers who prescribed topical antibiotics, topical steroids, oral antihistamines and moisturizers without benefit.

He was motivated to attend the emergency department due to an enlarging rash, intractable pain and new onset desquamation of some parts of the rash. Physical exam revealed a remarkably well demarcated, intensely erythematous, desquamating rash. The rash was a near perfect rectangle, approximately 35cm x 25 cm. The patient denied any history of irritant or allergen exposure. Likewise, he denied contact with heat sources or possibility of sunburn. No occupational exposures were identified. His past medical history was significant for obesity, cirrhosis and congestive heart failure. Thorough review of the patient's records revealed he underwent a fluoroscopic guided transjugular intrahepatic portosystemic shunt (TIPS) procedure 40 days prior to presentation to the emergency department. The radiologist's report noted a technically difficult procedure with prolonged fluoroscopic time. The patient was diagnosed with a radiation induced skin injury. He was discharged home with oral analgesia, a topical steroid cream and close dermatology follow up.

Despite the widespread understanding of the importance of the judicious use of diagnostic and interventional radiology, radiation induced skin injury remains a possibility. Due to the medical community's unfamiliarity with radiation induced skin injury, it is often very difficult to diagnose. Whereas chemical, electrical and thermal burns are immediately evident, radiation induced skin injury evolves in a delayed fashion. Erythema is typically not evident until 10 days after radiation exposure and desquamation does not commence until approximately 28 days post exposure. Due to the delayed onset of symptoms and their gradual evolution, the diagnosis of radiation induced skin injury is elusive, often resulting in a prolonged and frustrating experience for patients. Many patients attend the emergency department seeking analgesia for intractable pain, often having resigned themselves to living with an undiagnosed painful skin condition. Once the diagnosis is established, emergency physicians must rule out a bacterial super infection and provide symptomatic relief with oral analgesia and topical corticosteroids. Post discharge outpatient wound care is essential for symptomatic relief and prevention of infection. Patients with radiation induced skin injury are at long-term risk of skin loss and ulceration, often necessitating skin grafting. Accordingly careful patient education and longitudinal follow up are paramount.

This case serves as a reminder to the emergency physician of the importance of taking a careful history, reviewing the patient's record and considering the diagnosis of iatrogenic radiation induced skin injury. Furthermore, the emergency physician must be aware of the potential long-term complications of this diagnosis and ensure appropriate follow up is arranged.

Attachment: IMG_8806.JPG

#22996 : ACCOMPLISHMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE CLINICAL GUIDELINES RECOMMENDATIONS AT THE EMERGENCY DEPARTMENT.

Authors:

Luis Manclús (1), María Cuenca (2), Asier Bengoechea (1), Alicia Gimeno (3), Ricardo Muñoz (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain
2. , Alzira, Spain
3. Student, Lithuan University of Health Sciences, Kaunas, Lithuania

Keywords: RESPIRATORY

Abstract :

BACKGROUND:

Chronic Obstructive Pulmonary Disease exacerbations represents around 1-2% overall services at the Emergency Department.

OBJECTIVE:

To describe the characteristics of the attention to the patients with Chronic Obstructive Pulmonary Disease with exacerbation (acute) and to know the adequacy of the actual guideline's recommendations related to the pharmacological treatment prescribed to the patients.

MATERIAL AND METHODS:

Retrospective descriptive observational study performed to patients diagnosed with COPD exacerbation seen between January-August 2019 at the emergency department in La Ribera University Hospital (Alzira-Valencia-Spain).

The variables used for the study were: sex, age, assigned priority of care, place and time of care, request of additional test, eosinophil value, prescribed treatment and adequacy of the same regarding to the recommendations.

RESULTS:

111 patients were studied having the males ,with a mean age of $73,13 \pm 11,764$ years, a much higher percentage.

The assigned priority level ranged between P2 and P4. The patients were attended mainly in the consultation area and stayed 315,25 minutes on average.

Main pharmacological groups administered were 80,2% LABA and 72% LAMA.

Most frequent combination used was LABA-LAMA-ICS in a 32,43% of the cases followed by LABA-LAMA- in a 28,83% of the cases.

The eosinophil value was equal to or superior to 300 cells/ul in 26 patients, and 17 of them recieved inhaled corticosteroids following GOLD guidelines recommendations.

CONCLUSIONS:

It was observe a treatment regimen not in accordance with the recommendations in 34,6% of the patients

It is essential to carry out and update protocols in the emergency department on prevalent pathologies that adapt to the latest recommendations and guidelines such as GOLD for the care of the patient with Chronic Obstructive Pulmonary Disease.

#22997 : Mixed-method evaluation of a digital innovation that enables patient participation in emergency care

Authors:

Fie Brosbøl Kobberup (1), Brit-Silje Sode (1), Gitte Boier Tygesen (2), Malik Kalmrız (3)

1. , Copenhagen Business School, Copenhagen, Denmark

2. Emergency Department, Aarhus University Hospital, Aarhus, Denmark

3. Emergency Department, Regional Hospital Horsens, Horsens, Denmark

Keywords: patient involvement, patient-generated health chart

Abstract :

Background

It is well known that emergency departments (EDs) are exposed to human errors and unintended events due to large patient flow, high work pressure and overload of information. Strategies for providing efficient and effective health care are therefore imperative, where health information technologies are suggested to be one of the solutions. This study seeks to investigate if the use of patient-generated data gathered through a digital patient questionnaire (a patient-generated journal), has the potential to improve the health care delivered in EDs.

Methods

By the use of a mixed-method approach, the patient-generated journal (PGJ) was investigated from the perspectives of key stakeholders. The first part examined the PGJ from a patient perspective, by the use of participant observation, interviews and statistical data extracted from the PGJ. Secondly, the physicians' perspective was explored by the use of a questionnaire. Lastly, interviews were conducted with health care leaders from the ED. The data were compared and analysed using statistics and hermeneutic analysis.

Results

From the findings, it was evident that patients in need for urgent care well accepted the use of patient-generated data, and that the patients highly favored being activated in their patient pathway. However, it was also clear that the system needed improvements for it to fit their abilities and the urgent situation. The physicians expressed more mixed attitudes towards the PGJ, where the majority agreed that the system needed several improvements for them to gain benefits from it, but that the PGJ had potential to improve their work processes when fully developed.

Conclusions

The study concludes that the usage of patient-generated data is well accepted by patients in an urgent setting and that a PGJ, has the potential to improve quality in patient pathways by adding value to patient flows, as well as clinical workflows. **The concept and the specific patient-generated journal tested should, therefore, be further developed and adjusted to the clinic.**

#22998 : HYPERGLYCAEMIA SECONDARY TO HYPOGLYCAEMIA.

Authors:

Ricardo Muñoz (1), María Cuenca (2), Immaculada Tormos (1), Asier Bengoechea (1), Luisa Tarraso (1), Luis Manclús (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain

2. , , Alzira, Spain

Keywords: Endocrine-Diabetes

Abstract :

BACKGROUND:

One of the most important therapeutic complication for the patients with diabetes mellitus (DM) is hypoglycaemia.

While administering the treatment, it is important to follow guidelines' recommendations and protocols, since the overcorrection in the glucose level, can provoke metabolic alterations and a descompensatory process in the diabetes regulation.

OBJECTIVE:

To determine the rate of patients presenting hyperglycaemia subsequent to hypoglycaemia at the emergency department and to analyse the same rate according the type of diabetes and the previous treatment.

MATERIAL AND METHODS:

Observational descriptive and analytical exploratory study performed at the Emergency Department in La Ribera University Hospital. it has been studied patients with a diagnosis of hypoglycaemia at discharge during the months of March and July 2019.

The variables used were: sex, age, cause of hypoglycaemia, hypoglycaemia treatment and presence of subsequent hyperglycaemia (blood glucose at some time during admission after starting treatment greater than or equal to 180mg/dl).

RESULTS:

A total number of 93 patients were studied. The 81,7% has Type II DM. The 21,7% has as basal treatment with non-insulinic hypoglycaemic drugs and insulin previous to the admission to the emergency department. Low-dietary intake of glucose was the main reason of hypoglycaemia (64,52%) followed by administering mistakes (9,68%) and bad control of the disease (8,60%). A 94,6% of the patients was treated with glucose saline (5-10%), a 90,3% of the patients was treated orally and 86% was prescribed with Glucosmon.

Subsequent hyperglycaemia was notice in 43% of the cases and it was slightly superior in patients with Type I DM (56,3% vs 41,3%) $p=0,373$, observing no significant differences ($p=0,652$) while studying the presence of hyperglycaemia regarding the patient's previous treatment: 45% of hyperglycaemia was observed in the group of patients with a basal treatment with non-insulinic hypoglycaemic drugs, 48,6% in patients receiving insulin and 37,8% in patients treated with a combination treatment with the above mention drugs.

CONCLUSION:

The study found a high percentages of hyperglycaemia in the group of patients who visited the emergency department due to hypoglycaemia, which results give us an evidence of non-follow up correctly of the clinical recommendations and guidelines.

#22999 : DETECTION OF MISSED HYPOGLYCAEMIA AT THE EMERGENCY DEPARTMENT.**Authors:**

Immaculada Tormos (1), María Cuenca (2), Ricardo Muñoz (1), Pedro Garcia (1), Luis Manclús (1)

1. Emergency Department, Hospital Universitario de La Ribera, Alzira, Spain

2. , , Alzira, Spain

Keywords: Endocrine-Diabetes

Abstract :**BACKGROUND:**

The implementation of strategies to improve the detection of hypoglycaemia in diabetic patients with inadvertent hypoglycaemia is essential since inadvertent hypoglycaemia increases the risk of severe hypoglycaemic attacks , which has a negative impact in the quality of life of the patients and shows a greater tendency for developing microvascular complications.

OBJECTIVE:

To acknowledge the rate of patients presenting with inadvertent hypoglycaemia among patients with type II Diabetes Mellitus who requested urgent care in the emergency room using Clarck test.

MATERIAL AND METHODS:

A prospective descriptive observational study was performed to 53 patients presenting Type II Diabetes Mellitus who requested care of any reason to the Emergency Department of La Ribera University Hospital between 1st January and 28th February 2020.

The variables used were: sex and age of the patient, previous treatment for DM, acknowledge of hypoglycaemia symptomatology, frequency of severe hypoglycaemic attacks without fainting during the previous 6 months, frequency of severe hypoglycaemic attacks during the last year, frequency of results inferior to 70 mg/dl during the last month with and without symptoms, values from which the patient starts having and perceiving the clinical presentation of low blood glucose.

RESULTS:

Rate of inadvertent hypoglycaemia was 5,66%. 41,5% had not symptoms while having low-blood glucose levels. A 96,2% had the same symptoms they used to present with a drop in the glucose blood levels. A 11,3% reported having one or more times a month episodes of hypoglycaemia without loss of conciousness during the past 6 months, and a 15,1% reported having severe hypoglycaemic attacks in the past year.

The frequency of readings inferior to 70mg/dl with and with no symptoms was respectively 45,28% and 5,66%.

The value from which the patients mainly reported (81,1%) having sympyoms was of 60-90 mg/dl.

Just a 9,4% indicated to be certain about the correlation between blood glucose levels and the symptomatology.

CONCLUSIONS:

The Emergency Department should implement strategies, like Clarck test application, to improve the detection of inadvertent hypoglycaemia. These strategies should be done by a multidisciplinary team and should also involve the Primary Health Care system.

#23000 : The integration of Spanish language curriculum and simulation**Authors:**

Stormy Monks (1), Radosveta Wells (1), Zulay Zambrano (1), Mohamed Aly Ahmed (1), Scott Crawford (1)

1. Department of Emergency Medicine, Texas Tech University Health Sciences Center El Paso, El Paso, USA

Keywords: Simulation, education, language

Abstract :**Objective:**

Graduate medical training is an immersive and intensive process of learning to incorporate four years of background medical knowledge into clinical application with patients under the guidance of a supervising training program. Training programs on the US/Mexico border have an added challenge of learning to communicate in a different language while trying to learn and integrate medical knowledge. The purpose of this study was to examine resident learners' satisfaction and the perceived effectiveness with a traditional Spanish didactic training program and an integrated Spanish and Simulation training program during the first month of emergency medicine residency training.

Design and Method:

This study employed two groups of participants: 1) second year residents, third year residents, and graduates of the past academic year and 2) first year residents (two years of data). Group 1 had received traditional Spanish language training, which was purely didactic in past years. Group 2 participated in the integrated Spanish language training and simulation scenarios. This training included five one hour didactic sessions specific to the five main patient complaints seen in the ED. This was followed by participation in Spanish only simulation scenarios focused on those complaints. In past years, Group 1 participants had received training in the same simulation scenarios, but in English only. Participants completed a survey regarding their satisfaction and the perceived effectiveness of their respective training. Group 2 participants were provided pre- and post- surveys given on the first and last day of their integrated training program.

Results:

53% of Group 1 participants (n = 28) agreed that the traditional Spanish language training was effective. However, 71% believed that clinical use of Spanish was a more effective method of learning Spanish. 95% of Group 1 participants stated that they were comfortable speaking Spanish to patients while only 7% of these identified as Native Spanish speakers. Prior to participating in the integrated training program, 70% of Group 2 (n = 30) had little to no Spanish language proficiency and 57% had no Spanish language training during their undergraduate or medical school training. At the end of the Spanish language Simulation training, 87% of Group 2 participants agreed that the training was effective and that simulation exposure assisted with learning Spanish. 47% stated that they wanted Spanish Language Simulation Training to include more simulation cases. Spanish language proficiency increased across all levels of Spanish speaking ability.

Conclusions:

Overall, study findings suggest that both training methods were seen as effective while the integrative Spanish training was the preferred training. With a large percentage of Americans being of Hispanic descent, the ability to speak Spanish is essential in providing medical care. Moreover, it is imperative that residency programs provide language training for physicians serving border communities. Residency educators must better prepare our non-Spanish speaking physicians to serve this ever-growing population.

#23001 : Results of a hands-on training for a simplified TEE protocol. Transesophageal echocardiography (TEE) in cardiocirculatory arrest.**Authors:**

Arianna Gandini (1), Giuliano De Stefano (2), gabriele viviani (2), matteo castelli (2), Giuseppe Giannazzo (2), Giovanni Ascione (2), Stefano Grifoni (2), Sergio Bevilacqua (3), Nazerian Peiman (2)

1. Emergency Department, AOU Careggi - Florence, Firenze, Italy
2. Emergency Department, AOU Careggi - Florence, Florence, Italy
3. Department of Anaesthesiology, AOU Careggi - Florence, Florence, Italy

Keywords: transesophageal echocardiography, cardiocirculatory arrest, emergency medicine, emergency department, resuscitation, ultrasound, training course

Abstract :

Background: Integration of transesophageal echocardiography (TEE) goal directed transthoracic echocardiography (GDTTE) can impact decision making, assist diagnosis of reversible etiologies and help guide resuscitation of patients with cardiocirculatory arrest (CCA). Nevertheless, agreement on the best simplified protocol of resuscitative TEE (resusTEE) and on the training needed for emergency physicians (EPs) still lacks.

Objective: to evaluate the ability of EPs to obtain and maintain skills in performing resusTEE after a course with in vivo training in the cardiac surgery theatre and to assess the physician-perceived most useful views in clinical practice during the implementation of resusTEE in the emergency department (ED) after the end of the course.

Methods: Ten EPs without previous TEE experience underwent a resusTEE course, based on a 2-hour workshop and 8-hour of hands-on training. The training was performed in a cardiac surgery theatre tutored by cardiovascular anesthesiologists. The 6 taught views were midesophageal 4 chamber (ME4CH), midesophageal long axis (MELAX), midesophageal 2 chamber (ME2CH), midesophageal bicaval (MEbicaval), transgastric short axis (TGSAX) and aorta view (AOview). EPs were evaluated by a cardiovascular anesthesiologist at the end of the course and after 12 weeks. Once the course was completed, resusTEE exams performed by EPs in ED were monitored for a 12-week period and at the end of this period, EPs were asked to rank the views according to their usefulness.

Results: The overall assessment by the tutors was higher than 4 points out of 5, both at the end of the course and after 12 weeks. Probe insertion and acquisition and interpretation of the different views scored more than 4 points out of 5 except for TGSAX that showed a worsening after 12 weeks.

Twelve resusTEE exams were performed in patients with CCA in ED over 12 weeks after the course. EPs used only 4 out of 6 taught views in clinical practice, in the following order of frequency: ME4CH, AOview, MEbicaval and MELAX. The four views perceived by EPs as more useful were, in order of preference: ME4CH, MEbicaval, MELAX and AOview.

Conclusions: EPs can successfully acquire and maintain the skills needed to perform a resusTEE. However, among the 6 views learned in the course, EPs used and considered useful only four of them (ME4CH, MEbicaval, MELAX and AOview).

#23002 : “Prevalence and factors associated with burnout Syndrome among employees of emergency treatment units at selected teaching Hospitals in Sri Lanka”.

Authors:

Asanka Migelheva (1), Ganaka Senaratne (2)

1. , , Colombo, Sri Lanka
2. Consultant Physician, Teaching Hospital, Karapitiya, Galle, Sri Lanka

Keywords: Burnout Syndrome, Emergency Department

Abstract :**Abstract****Background**

Burnout Syndrome consists of depersonalisation, reduced personal accomplishment and emotional exhaustion. Among the health care workers those who work in the Accident and Emergency Departments (A &E) are more prone to be affected by the Burnout Syndrome during their employment period.

Objective

To determine the prevalence and factors associated with Burnout Syndrome among employees of A & E at selected teaching hospitals in Sri Lanka.

Methods

A cross-sectional survey was conducted in three A&Es. The data were collected using a self-administered questionnaire developed incorporating Copenhagen Burnout Inventory (CBI), which included collecting demographical data, general health related questions, and factory which may reduce burnout as perceived by workers.

Results

A convenience sample of 200 data was collected. 74 (37%) nurses, 64 (32.0%) physicians and 62 (31.7%) Health care assistants. The sample consisted 98 (49%) males and 102 (51%) females. Working experience was distributed as 126 (63%) equal to or less than 5 year and 54 (27%) more than 5 years of which 10 (18.51%) has worked more than 10 years. Only 24 (12%) of the health care workers smoke and all of them were male healthcare assistants. Mean score of overall burnout in CBI was 51 in all three A&Es. The mean personal burnout, work related burnout, client related burnout was respectively 43, 58, 52. There was no significant difference between the mean burnout level of workers in different A&Es (Mean burnout score in TH Karapitiya 51, TH Anuradhapura 49, TH Kurunegala 54 ($p>0.005$)) or between male and female workers (Mean Burnout score male 54, female 51 ($p>0.005$)). However, there was a significant higher degree of burnout in nurses (mean CBI 56) compared to physicians (mean CBI 45) ($p<0.005$). There was no significant difference in burnout among physicians (mean CBI 45) and healthcare assistants (Mean CBI 43) ($p>0.005$). Burnout was higher among younger workers (aged ≤ 30 years old) than their older counterparts (OR 2.4, 95% CI = 1.302–4.458, $p = 0.005$). Burnout was also higher among those who have worked less than or equal to 4 years than those who have worked more than 4 years in A&E (OR 2.02, 95% CI = 1.11–3.69, $p = 0.019$). Out of all participants the prevalence of burnout 178 (89%) according to CBI cut off score 40 or above as burnout indicator. All participants indicated that working in A&E was more stressful than other working areas and the commonest reason identified was busy environment 176(88%). Out of the interventions identified to create a work friendly environment, arranging flexible roster was indicated by 156 (78%), regular gatherings were identified as a measure by 20 (10%).

Conclusion: The results of our study show that A&E healthcare workers are a vulnerable group for burnout and it is highly prevalent in three Sri Lanka A&Es. Preventive approaches to stress and burnout are needed to promote quality of work life.

#23003 : Assessment of the decontamination procedure for self-referrals of a chemical mass casualty disaster, through a simulation exercise at the emergency department of a University Hospital in Brussels (UZ Brussel).**Authors:**

Lieselot Blomme (1), Sofie Pauwels (2), Ruben De Rouck (2), Ives Hubloue (2)

1. Emergency department, Brussels University Hospital (UZBrussel), Jette, Belgium
2. Research group on Emergency and Disaster Medicine, Vrije Universiteit Brussel, Jette, Belgium

Keywords: Chemical decontamination, mass casualty, simulation

Abstract :

Introduction: Recent developments with nerve agents have renewed the interest in public preparedness against chemical incidents. Contaminated wild evacuees are considered an important part of the disaster response chain in chemical incidents, due to their tendency to overrun an emergency department and endanger the people within. This secondary contamination can be prevented with adequate decontamination, but this process is resource-intensive and requires sufficient manpower. To our knowledge, previous research only focussed on one or more subsets of this process. In order to get an all-encompassing view, a live simulation exercise was constructed to estimate the real decontamination capacity of the emergency department.

Objectives:

Measuring decontamination capacity and throughput times of regulation, triage, preliminary treatment, disrobing, decontamination and re-robing. Analysis of the wet decontamination procedure to identify bottlenecks.

Design and setting:

A prospective observational study using a chemical disaster simulation exercise at the emergency department of a tertiary hospital in Brussels.

Participants:

24 participants, 5 timekeepers, 6 observers, 2 drillmasters and 8 personnel members carrying out the procedure.

Scenario and decontamination procedure:

A chemical incident using Sarin in a nearby metro station was modelled. Adequate recognition was assumed, as well as activation of the hospital chemical incident plan. Mock victims were ambulatory and wore laminated cards with medical information and parameters. The procedure consists of regulation, triage, oxygen application, preliminary antidote treatment, disrobing, showering and finally re-robing. Participants incapacitation was simulated using specific acting instructions, as well as pinhole glasses simulating miosis. Antidote injection was performed on an intramuscular mannequin. Oxygen application was simulated using a simple face mask, while participants carried their own oxygen tank throughout the procedure. Triage was performed using the modified CBRN triage sieve. Clothing was removed by cutting or self-disrobing when able. Wet decontamination time was 5 minutes according to the hospital protocol, and the decontamination unit has 5 available showerheads.

Methods:

Time spent in each station was recorded using synchronised digital clocks. Median and average times were calculated per station and across the exercise.

Feedback from all involved was acquired through a structured questionnaire regarding procedures, bottlenecks and communication.

Results:

The decontamination capacity per hour was 24. Median decontamination time was 20 minutes 31 seconds with an interquartile range of 3 minutes 51 seconds. The average decontamination time after exclusion of one outlier was 20 minutes 6 seconds with standard deviation of 2 minutes 36 seconds. The largest bottleneck was the disrobing station and therefore the maximum capacity of the shower was rarely reached. Higher triage

codes went faster through the procedure than lower triage codes. Twenty five percent of participants found the communication lacking throughout the procedure.

Conclusion:

The decontamination capacity was 24 victims per hour. The bottleneck was the disrobing station. Participants suggested that additional personnel at the disrobing station could significantly improve this capacity.

#23004 : Uneven increase in emergency hospital activity, a nationwide descriptive study**Authors:**

Marianne Fløjstrup (1), Mikkel Brabrand (1), Søren Bie Bogh (2)

1. Department of Emergency Medicine, Hospital of Southwest Jutland, Esbjerg, Denmark
2. Patient data Explorative Network, University of Southern Denmark and Odense University Hospital, Odense, Denmark

Keywords: epidemiology, emergency medicine, reorganisation

Abstract :

Background

Emergency healthcare is being reorganized in many countries, including Denmark. Since 2008, the number of public hospitals in Denmark has decreased from 44 to 23 with the aim of centralising and thus improving quality of care. The country is divided into five administrative regions, which are responsible for the health care system. The citizens in the regions are considered homogeneous regarding sociodemographic and health-related characteristics. The number of citizens and the absolute numbers in the regions of acute hospital contacts varies between regions. We aim to investigate if the citizens in the five regions use the acutely healthcare system equally. Therefore, we want to describe the regional change in the number of acute hospital contacts per 1000 citizens per year in Denmark from 2008 to 2016.

Methods

This descriptive study was based on Danish nationwide registers, including all acute hospital contacts, including repeated contacts by adults (age > 18 years) with Danish hospitals, from 1 January 2008 to 31 December 2016. We counted the number of acute hospital contacts per year and calculated the number of contacts per 1000 citizens per year, which were stratified by administrative region.

Results

We included 10,283,598 unplanned acute hospital contacts by adults. In 2008 there were 1,090,998 acute hospital contacts, these increased in 2009, and then decreased yearly until 2014, where the number increased and remained stable until 2016. The increase in 2014 was alone due to an increase in the Capital Region of Denmark. The national number of contacts per 1000 citizens per year increased as absolute numbers throughout the nation. There were regional differences in the number of contacts per 1000 citizens per year. In 2008, The Northern Region of Denmark had fewest contacts (197 per 1000 citizens per year) and the Capital Region had most (300 contacts per 1000 citizens per year). The Central Region of Denmark had fewest contacts (193 contacts per 1000 citizens per year) and the Capital Region had most (364 contacts per 1000 citizens per year) in 2016.

Discussion

Although the citizens in the regions are described to be homogeneous in sociodemographic and health related characteristics, we found large variation in the number of acute contacts among the regions and over time. The Capital Region of Denmark had the most contact per 1000 citizens during the study period.

Trial Registration / Funding Information (only) :

Marianne Fløjstrup and Søren Bie Bogh was funded by Region of Southern Denmark, and Marianne Fløjstrup was funded by the University of Southern Denmark.

#23005 : A Retrospective study about violence and verbal abuse against staff in Accident and Emergency Department

Authors:

Ionut Sorin Negrea (1), Dalip Kumar (1), Michael Acidri (1)

1. Consultant Emergency Department, Southend Hospital, Southend-on-Sea, United Kingdom

Abstract :

A definition of violence and verbal abuse against staff in accident and emergency department: "Any incident, in which a person working in the healthcare sector is verbally abused, threatened or assaulted by a patient, member of the public or a member of staff arising out of the course of their work.

This study aimed to determine the incidence of verbal abuse and physical violence in Southend Accident and Emergency (A&E) Department and the extent of provision of security measures and instructions for staff on how to deal with these problems

Methodology : A retrospective study between 1st of September 2018 until 1st of September 2019 with a Sample size of 103 000 was conducted in Southend Accident and Emergency (A&E) . Data was collected from the software departmental system ("Medway ") and from A&E database for all the patient who had a red card or a yellow card

This was a pilot study/ index study on violence to Southend ED Staff . The risk of being a victim of violence as a member of staff in A&E Southend University Hospital NHS Foundation Trust is 4% , compared with 15 % in NHS. During one year 9 cases were related with physical violence (red carded) and 75 (89.28%) being verbally abusive / physically threatening (yellow carded)

Conclusion:

The risk of being a victim working in A&E Southend is 4%. Underestimated

compared with national data. We considered that there is an under-recording of these incidents. 89.28% resulted in no physical injury, patient being verbally abusive / physically threatening

We highlighted Individual staff responsibilities 1)Be familiar with Trust Managing Abuse and Violence Policy which details guidance on prevention and management of violent and abusive incidents.2)Document each episode of unacceptable behaviour in the patient's medical record and complete an incident report.3)Be aware of how to escalate issues with unacceptable behaviour.4)Report incidents through Datix

#23006 : Lactic acidosis secondary to metformin in hospital emergency department

Authors:

Isabel MORALES (1), Maria Carmen Manzano Alba (1), Rosa Garcia Hidalgo (2)

1. Emergency Department, SAS, Seville, Spain

2. Emergency Department, SAS, seville, Spain

Keywords: Lactic acidosis, metformin, mortality.

Abstract :

Background: Metformin is one of the most prescribed drugs in the world. This makes it especially important to pay attention to the possible adverse effects among which the possible induction of lactic acidosis stands out by severity. In some series the mortality of this picture is very high. However, it is believed that the true incidence is unknown, as well as practical transcendence.

To know the characteristics of patients with lactic acidosis induced by metformin is very important to diagnosis and treatment.

- **Material/Methods:** It is a descriptive analysis of all cases diagnosis of " Lactic acidosis secondary by metformin were diagnosis in Emergency Department from January 1, 2014 until March 1, 2017, in a third level hospital. Being a retrospective search, informed consent was not requested.

Results: Sample was composed of 20 cases, of which 10 were males (50%) with an average of 76.7 ± 8.6 SD years.

The number of drugs per day was 10.15 (7.25-12.5). The consumption of metformin in 35% of the patients, was carried out together with another antidiabetic, although the most frequent pattern was in solitary (65%): in 9 cases with 850 mg every 8 h (45%) and 3 of them each 12 hours (15%) Only in one case was it overdosed at home (3000 mg/day).

Charlson was 3.94 ± 1.81 SD, and only 20% had diabetes with organ involvement.

Symptoms on arrival in 40% were confusional, followed by vomiting (30%), diarrhea (20%) and dyspnea (5%).

The situation of patients upon arrival at the emergency room presented Glasgow 12.29 ± 3.22 SD, and a respiratory rate

The renal function was reviewed in hospital clinical history, only in 2 cases there were data of chronic kidney disease, being its Basal Glomerular Filtration > 60 mL / min. 80% had acute kidney failure at the time of assessment, with mean creatinine values 6.5 ± 2.9 mg/dl, Urea 191 ± 74.5 mg/dl and potassium levels 6.1 ± 1.34 mEq/L.

A total of 7 patients (35%) required admission to the ICU compared to 13 (65%) that was not required, were admitted mostly in the nephrology service in 10 of the cases (50%). In 12 cases required purification treatment, 9 cases required hemodialysis (45%). The number of sessions was 3.2 ± 2.9 SD. Continuous venovenous hemofiltration (HFVVC) is applied in 3 cases (15%). The duration of the hemodialysis sessions carried out by the Nephrology service was scheduled in 4-6 hours.

The average of the days that were admitted until the time of discharge or the moment of success was 12.60 days (5-13.75). Only 5 cases (25%) the patient died during admission

- **Conclusions:** All our cases were older with acute renal failure and polymedicated. Patients must be warned about the most common lactic acidosis inducing situation, especially dehydration and gastrointestinal syndrome if they continue taking the drug at such times. Mortality was similar to what was published.

#23007 : Training of first year residents in emergency medicine 2018-2019**Authors:**

PAVEL ALEXEI CHISHOLM (1), DOMINGO SÁNCHEZ SENDÍN (2), DIEGO JOSE CASTRILLÓN RODRIGUEZ (3), ERIK RODOLFO CORPEÑO MONGE (4), ALEJANDRO YAÑEZ ANCHUSTEGUI (2), GABRIEL MONTERO VICENTE (5)

1. EMERGENCY MEDICINE SERVICE, HOSPITAL QUIRONSALUD SUR, MADRID, Spain
2. EMERGENCY MEDICINE SERVICE, HOSPITAL GENERAL UNIVERSITARIO GREGORIO MARAÑÓN, MADRID, Spain
3. EMERGENCY MEDICINE SERVICE, HOSPITAL INFANTA ELENA, MADRID, Spain
4. EMERGENCY MEDICINE SERVICE, HOSPITAL HM MOSTOLES, MADRID, Spain
5. EMERGENCY MEDICINE SERVICE, HOSPITAL INFANTA LEONOR, MADRID, Spain

Keywords: Training, emergency medicine, residents

Abstract :

Introduction and Objectives:

With this study we have analyzed and compared the results in the level of improvement in training given by the evaluation notes obtained in the rotation of medical emergencies of the MIR1 of Family Medicine and Medical Specialties in 2019 comparing the course the traditional LBL course vs PBL / CBL.

Method:

The traditional LBL course was taught to all MIR1 of medical specialties of the HGHGM, and the PBL / CBL course was developed and taught based with cases and simulated problems to MIR1 of Family Medicine of the Southeast Teaching Unit, 15 days prior to the first shift in medical emergencies.

Type of study: cross-sectional. Sample and Inclusion Criteria: The emergency rotation notes of all the MIR1s of Family Medicine and medical specialties in 2019 were analyzed. The following variables were analyzed: Decision making and Acquired skills.

Statistical analysis with Excel and SPSS Tests: Mann-Whitney

Results:

In 2019: 20 MIR1 Family Medicine were given the course with the PBL / CBL-based method, the course with the traditional LBL-based method was given to 77 MIR1 of other medical specialties. With the PBL / CBL Methodology In the variable of Decision making capacity of the Family MIR1, an average of 6.85 was obtained, and a median of 7.00, with a standard deviation of 1,040, with the LBL methodology an average of 7.35, and a median of 7.00 were obtained. , with a standard deviation of 1,133, the difference being not statistically significant ($p > 0.05$). With the PBL / CBL Methodology In the variable Skills acquired from the Family MIR1, an average of 6.85 was obtained, and a median of 7.00, with a standard deviation of 1,137, with the LBL methodology, an average of 7.31 was obtained, and a median of 7.00, with standard deviation 1,115, the difference being not statistically significant ($p > 0.05$).

Conclusions:

This study wanted to reveal if the methodology of the PBL / CBL course had a favorable impact on the rotation notes of medical emergencies compared to the traditional LBL course.

In the level of Decision making and Skills acquired, the marks of the MIR1 of Family Medicine with the PBL / CBL course were similar than in the LBL course.

However, since it is the first year assessed with the updated grade system, more studies are required and new updates to the PBL / CBL methodology are required to improve emergency training for MIR1.

#23008 : Mortality among patients admitted to hospitals on weekend compared with weekdays, a nationwide retrospective cohort study**Authors:**

Marianne Fløjstrup (1), Søren Bie Bogh (2), Mikkel Brabrand (1)

1. Department of Emergency Medicine, Hospital of Southwest Jutland, Esbjerg, Denmark
2. Patient data Explorative Network, University of Southern Denmark and Odense University Hospital, Odense, Denmark

Keywords: Weekend effect, nationwide,

Abstract :

Background

The inflow of unplanned patients to hospitals varies over time. Previous studies have shown that acute admissions to hospital over the weekend is associated with increased short-term mortality. The aim of this study was to compare short-term mortality between patients admitted during the weekdays with patients admitted during the weekend. Also, business hours was compared to out-of-business hours.

Methods

This study is based on Danish nationwide registers, including all acute hospital contacts (age > 18 years) with Danish Hospitals, from 1 January to 31 December 2016 with 30 days follow-up. We only included the last unplanned hospital contact of each patient. We divided the data into groups according to time of day (categorized into three periods; daytime (7am to 3pm), evening (3pm – 11pm) and night (11pm to 7am)) and over the weekend (Friday 3pm to Monday 7am). We adjusted for patient characteristics including sex, age (in age-groups 18-49, 50-64, 65-79 and >80 years) and Charlson Comorbidity Index (Low = 0, Medium 1-2, High >2). We calculated both crude (cHR) and adjusted (aHR) hazard ratios using Cox Proportional Hazard Regressions analysis. Data will be presented with proportion (95% confidence interval) unless otherwise stated.

Results

We identified 792,322 patients with an acute hospital contact, 276,554 (34.9%) of the contacts happened over the weekend, 400,251 (50.5 %) were female and 29,236 (3.7) died within 30 days after admission. cHR for weekday evening was 0.86 (0.84-0.89), for weekdays night 1.25 (1.19-1.31), weekend daytime 0.86 (0.83-0.89), weekend evening 0.82 (0.80-0.85) and weekend night 1.00 (0.96-1.06) compared with weekdays daytime. aHR for weekday evening was 1.04 (1.01-1.08), weekday night 1.31 (1.26-1.38), weekday daytime 1.12 (1.08-1.16), weekend evening 1.10 (1.06-1.14), weekend night 1.26 (1.19-1.32) compared with weekday daytime.

Discussion

In this nationwide study we found, that patients who had an unplanned hospital contact during the out-of-business hours and over the weekend had an increased risk of dying within 30 compared to patients who had an unplanned hospital contact during daytime in the weekdays, when adjusting for sex, age (in age-groups) and Charlson Comorbidity Index.

Trial Registration / Funding Information (only) :

Marianne Fløjstrup and Søren Bie Bogh was funded by Region of Southern Denmark, and Marianne Fløjstrup was funded by the University of Southern Denmark.

#23009 : Management of listeria outbreak in an emergency department: organization and result**Authors:**

Isabel MORALES (1), Rosa Garcia Hidalgo (2), Maria Carmen Manzano Alba (1)

1. Emergency Department, SAS, Seville, Spain
2. Emergency Department, SAS, seville, Spain

Keywords: Listeriosis spp.; outbreak; emergency department

Abstract :

-Background: Listeriosis is a frequently undiagnosed disease, which usually appears in the form of sporadic cases, and whose epidemiological interest lies in the possibility of vertical human transmission and its appearance in recent years and how it has occurred in this August, of major outbreaks of food transmission. On August 15, a prison notice was issued by the Ministry of Health and Families, through the General Directorate of Public Health and Pharmaceutical Organization, of Health, the health alert on the meat product made by the firm Magrudis.

Our objective is to describe the measures taken to control and manage patients with high suspicion of *Listeria monocytogenes* infection in the outbreak detected by infected meat attended in an emergency department.

- Methods: Description of the measures and organization of an Emergency Department in the management of patients affected by *Listeria monocytogenes* in an outbreak detected by infected meat "LA MECHA". All the patients were reported - declared to the Preventive Unit.

- Results: After communicating by the Ministry, the emergency service is saturated by patients with a lack of information and doubts. Most of the patients were attended in the hospitals of Seville, ours being the second in patients attended. A consultation is enabled by an adjunct with indications agreed by the UGC Urgencias - E. Infeciosas.

On August 17, the first recommendations for initial clinical management of a patient with suspected listeria infection were made by the E. Infectious Diseases Service. In this protocol, it organizes the cases taking into account patient characteristics (WITH or WITHOUT risk factors (FR)); and clinical picture (asymptomatic, mild and severe / CNS involvement).

On August 19, the first unified *Listeria* protocol prepared by the Ministry of Health. This is updated on August 20 and 21.

The protocol distinguishes 3 types of patients: pregnant women, adults and children. Adults are organized into two: those WITHOUT FR and WITH FR (elderly, immunosuppressed, and transplants).

Likewise, the protocol differentiates different clinical situations:

Asymptomatic: Only recommends home control without antibiotic treatment in the following 3 weeks;

Mild symptoms/signs (non-febrile): All patients are offered oral antibiotic (patients without RF) or intravenous (with RF) treatment.

Moderate symptoms with fever(3), severe symptoms(4), involvement of the central nervous system(5), uncomplicated(6) and complicated(7) bacteremia: admission to ALL patients with intravenous antibiotics.

The difference between protocols consists of lowering the dose in mild cases(2) of Amoxicillin 1.5g/8 hours to 1g/6-8 hours; and, possibility of early discharge if clinical stability in cases of uncomplicated bacteremia(6) with oral treatment of 7-14 days (previously indicated intravenous antibiotic on those days).

-Conclusions: As a result of applying the protocol, none of the patients admitted to our hospital for eating infected meat "LA MECHA" was admitted for poor response to oral treatment indicated after evaluation in the emergency department or after being discharged without antibiotic treatment. with complicated infection on arrival.

Despite the changes in the protocol, it has been safe and effective to identify patients with low and high risk of complications after ingestion of meat infected with outbreak *Listeria monocytogenes* published on August 15, 2020.

#23010 : ARE MEDICAL STUDENTS INTERESTED IN DISASTER MEDICINE EDUCATION?

Authors:

EUGENIA - MARIA LUPAN-MURESAN (1), George-Teo Voicescu (1), Stefania-Anda Popa (1), Adela Golea (1)

1. Emergency Medicine Discipline, Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Romania, Cluj-Napoca, Romania

Keywords: disaster medicine; medical education; peer-to-peer education; table-top simulation; manikin simulation

Abstract :

Background. Considering the dynamics of modern society, man-made or nature-inflicted disasters have marked the recent decades and triggered international response initiatives to alleviate these burdensome situations. Medical students (MS) represent a valuable resource in disasters, if awareness and introductory training are provided. Nonetheless, most European medical universities do not include DM training within their bachelor curricula. The aim of our observational study is to document MSs' interest in disaster medicine education and generate appropriate learning contexts.

Methods. A survey is currently being conducted amongst the 6th year medical students of "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania during their Emergency Medicine (EM) rotation. The questionnaire consists of 11 closed questions and 1 multiple choice question, which was shared both offline and online. Data such as demographics, previous DM educational training, current experience and interest in humanitarian missions and DM courses was collected through this survey.

Results. 507 MSs have been offered the possibility of enrolling in this survey. The response rate was 57.4%, with a cohort mean age of 25.0 years (SD= ±1.6) and a 1:1.94 male:female gender ratio. The ethnic structure of the cohort was 73.54% Romanians, 13.4% French, 6.19% German, alongside Greek, Italian, British, Irish, Swedish, Canadian. Out of the 291 responders, 75.26% did not have DM training as part of their university curricula. Nevertheless, 97% of them acknowledged that there is a difference between DM and EM, yet only 45.7% knew the definition of a disaster. In almost unanimity, MS rated DM as being important for their education (96%) and consider the need for DM professionalization (92%). 75.6% of the MS intend to collaborate with a Humanitarian Organization in the future, but only 8.93% feel prepared for a disaster response as future medical professionals. Therefore, 86.25% would take part in a DM course, if organized by the university.

Discussion and Conclusions. Nowadays, MSs seem to be highly interested in humanitarian missions and contributing to disaster relief. Unsurprisingly, they comprehend the importance of courses and workshops regarding DM, as they believe that every physician should be trained on how to act in case of a disaster, no matter their specialty. Therefore, the necessity of disaster management trainings for MSs arises, becoming an essential part of their bachelor curricula. Trained MSs can contribute to a competent and qualitative response in natural and humanitarian crisis; the present COVID-19 pandemic comes proof, as MS are volunteering to alleviate the situation. Means such as peer-to-peer education, table-top and manikin simulations, and e-learning, visual platforms can be employed inexpensively and with maximal results.

#23011 : Trauma team activation: are we casting the net too far!

Authors:

Sarah Baird (1), Joshua Campbell (1), Michael Fallon (1), Abdo Sattout (1), John Hollingsworth (1)

1. Department of Emergency Medicine, Aintree University Hospital, Liverpool, United Kingdom

Keywords: Trauma Team Activation

Abstract :**Introduction**

Major trauma patients are transported to a major trauma centre (MTC) according to a well-defined system operating procedure (SOP). An over triage at scene can lead to unnecessary MTC transfer especially if “dangerous mechanism of injury” is considered instead of patient’s stable physiology and absence of significant injuries.

Method

The study aim was to review North West Ambulance Service (NWS) SOP that brings major adult trauma patients to the Emergency Department (ED) of Aintree University hospital, MTC for Merseyside and Cheshire.

We conducted a retrospective study looking at the major trauma team activation for the period between January and June 2018. Inclusion criteria for stable prehospital patients: Glasgow coma score (GCS) of 13 or more, heart rate (HR) of 110 or less, systolic blood pressure (BP) of 90 or more, a respiratory rate (RR) of 20 or less, and absence of multiple injuries.

Results

A total of 752 patients triggered the major trauma team activation with 223 patients included into the study. These patients were referred to as the “Stable at Scene” cohort and were further divided into one of three groups based on the injuries identified on imaging and examination.

First the Red group: 50 patients (mean age 52.8 years) had major haemorrhage, complex or open limb/pelvic fractures, intracranial haemorrhage or skull/ unstable spinal fractures or cardiothoracic injuries. Therefore, this group was judged to require the input of an MTC as opposed to a TU.

Second the Amber group: 56 patients (mean age 48.6 years) had deep lacerations, stable/ uncomplicated spinal or limb fractures, or less than three rib fractures or pulmonary contusions. This group was viewed to require either an MCT or a TU input.

Third the Green group: 117 patients (mean age of 46.4 years) had distal limb injuries, sprains, concussion, haematomas or superficial lacerations. This group was deemed not to require an MTC input.

In summary, 77.6% of the Stable at Scene cohort (Amber and Green groups) were unlikely to require the input of an MTC.

Road traffic collision was the most common mechanism of injury seen in the Red and Amber groups whilst falling down stairs was the top of the Green group.

Conclusion

As our study showed, a considerable number of major trauma patients would have been managed locally at a TU for their initial assessment. This TU bypass for an MTC was mostly down to an over triage of “dangerous mechanism of injury” listed in NWS trauma pathfinder. When serious injuries are to be identified at a TU as in the case of the Red group, patient’s transfer from a TU to an MTC would be well justifiable. Hence, a review of the NWS SOP for major trauma needs to be considered.

#23012 : Age improves early prediction of 7-day mortality in a Scandinavian triage system, an observational study

Authors:

Gustav Malmer (1), Richard Åhlberg (1), Per Svensson (2), Martin Holzmann (1), Eli Westerlund (3)

1. Department of Medicine, Solna, Karolinska Institute, STOCKHOLM, Sweden

2. Department of Clinical Science and Education, Södersjukhuset, Karolinska Institute, STOCKHOLM, Sweden

3. Department of Clinical Science and Education, Danderyd Hospital, Karolinska Institute, STOCKHOLM, Sweden

Keywords: Triage, RETTS, RETTS-A, prediction, mortality, 7-day mortality, cohort study, priority, age, sex, primary complaint, specific, nonspecific, ROC, AUC, logistic regression

Abstract :

Background

Early identification and management of critically ill patients is important for the quality and patient safety in the Emergency Department (ED).

Rapid Emergency Triage and Treatment System (RETTS) is a triage system widely used in Scandinavian EDs, setting a triage priority (TP) from 1 to 5 for the patient, with 1 being the highest priority. The priority level is intended to indicate a risk of deterioration and a need for urgent emergency care and interventions. The process of RETTS evaluation is a structured patient history and status control conducted by a nurse, including respiratory rate, heart rate, systolic blood pressure, pulse oximetry saturation, body temperature and level of consciousness. Patient age or sex is not included in the RETTS algorithm.

Improving the triage system's ability to predict adverse patient outcomes could reduce the risk of delayed intervention and delayed care for patients at risk.

Objective

We aimed to evaluate the relative risk and predictive utility of patient's age and sex in triage in general and in the RETTS system in particular with regard to 7-day mortality (7dM) risk, and whether there was a difference in this regard between patients with specific or nonspecific primary complaints.

Material and methods

We performed a cohort study on all visits to the EDs for adults of any of the 7 emergency hospitals in the 2 million inhabitants Stockholm region during 2012–2016. A total of 1 816 599 visits were included. Logistic regression (LR) analysis and receiver operating characteristic (ROC) analysis with area under the curve (AUC) were performed with patient's first triage priority, age and sex as independent variables and patient deceased or not within 7 days as primary outcome. The model was fitted on patient visits in 2012–2015 and evaluated on patient visits in 2016.

Results

Age was an independent predictor of 7dM also when adjusted for triage priority and sex, whereas sex didn't make a significant contribution to any model.

Age alone outperformed triage priority in predicting 7dM. The model using only triage priority had an

AUC of 0.73 (95% confidence interval [CI] 0.72 – 0.75) and a model with only age had an AUC of 0.85 (95% CI 0.84 – 0.85). The combined model with triage priority and age had an AUC of 0.88 (95% CI 0.87 – 0.89). Relative risk increased by 8.3% for each year of patient age (95% CI 8.0% – 8.5%), after adjusting for triage priority. We found no significant differences between models for patients with specific vs nonspecific complaints.

Conclusions

Including patient age substantially improves risk assessment for 7dM for patients in the ED triaged with the RETTS system. We suggest that future triage systems consider patient age when setting triage priority.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding. The research was registry-based, was approved by an institutional review board, and informed consent was deemed unnecessary by the review board.

#23014 : Increased risk of readmission but not mortality for patients discharged from the Emergency Department with symptom- or suspicion-diagnoses: A single center historic cohort study**Authors:**

Rasmus Gregersen (1), Cathrine Fox Maule (2), Janne Petersen (2), Finn E. Nielsen (1)

1. Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark
2. Center for Clinical Research and Prevention, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark

Keywords: Emergency Medicine, Emergency Department, Readmission, Mortality

Abstract :

Background: Most patients are discharged from an emergency department (ED) after brief examination, observation, and treatment. Some patients have unknown causes of their symptoms after workup and are discharged with symptom- or suspicion-diagnoses. These patients might have underlying, unrecognized diseases causing increased risk of mortality and readmission, a hypothesis which has not yet been investigated. This study was aimed at examining the usage of symptom- and suspicion-discharge-diagnoses along with mortality and readmission within 3 days from discharge.

Methods: In this historic, register-based study, we identified all patients discharged from the ED at Bispebjerg and Frederiksberg Hospital (Copenhagen, Denmark) in years 2016-2018 from the National Patient Register. Generally, workups, initial treatment, and assessment for need of further admission are intended completed within 6 hours at the Emergency Department. For discharged patients, we assessed mortality and in-hospital readmission within 3 days from discharge as outcomes, calculated as risk (95% CI) using the cumulative incidence function, accounting for death as a competing risk for readmission. The exposure was the primary ICD-10 discharge diagnoses, grouped by R-diagnoses (symptoms), Z-diagnoses (suspicion of disease), or other. Some of the most common symptom-diagnoses were also grouped for sub-group analyses.

Results: We identified 251,424 primary contacts at the ED, 42,324 (16.3%) were admitted, 85 died during stay in the ED, and 209,015 (52.5% female) with a median age of 36.3 years (Q1-Q3: 26.1-54.1) were discharged. A R-diagnosis was the primary diagnosis in 28,858 (13.8%) contacts and a Z-diagnosis in 21,398 (10.2%) contacts. Risk of death within 3 days was 0.04% (0.04-0.05%) for all discharged patients and stratified 0.06% (0.04-0.08) for R-diagnoses, 0.06% (0.04-0.09%) for Z-diagnoses, and 0.04% (0.03-0.05%) for other. Risk of in-hospital readmission within 3 days was 2.9% (2.8-2.9%) for all discharged patients and stratified 5.1% (4.9-5.3%) for R-diagnoses, 3.6% (3.5-3.8%) for Z-diagnoses, and 2.4% (2.3-2.4%) for other. R-diagnoses at readmission were more common for patients with R-diagnoses at index admission at 43.6%, compared to 12.6% for Z-diagnoses and 8.9% for other diagnoses at index ($p < 0.001$). The highest risk of readmission in the sub-group symptom-diagnoses was seen in "Fever" at 12.7% (10.5-15.5%), followed by "Abdominal pain" at 9.2% (8.6-9.8%), "Headache" at 4.9% (4.0-5.9%), "Cough and abnormal breathing" at 4.2% (3.6-4.8%), "Vertigo and dizziness" at 4.1% (3.4-4.9), "Malaise" at 3.1% (2.4-4.0%), "Fainting" at 3.0% (2.2-3.9%), "Chest pain" at 2.8% (2.3-3.3%), and "Abnormal heart rhythm" at 2.2% (1.6-2.9%). Risk of death in the symptom-groups were imprecise due to a small number of fatal outcomes.

Discussion & conclusion: Risk of death was low for all patients discharged from the emergency department at 4 per 10,000 contacts within 3 days, not significantly different for R or Z-diagnoses. Readmissions was significantly more frequent for patients discharged with R- or Z-diagnoses. This suggest, a higher proportion of patients with underlying disease which should be of further focus although we cannot conclude on the reasons for readmissions. In conclusion, patients discharged from the ED after brief examination with a R- or Z-diagnosis had an increased risk of readmission but not mortality within 3 days.

Trial Registration / Funding Information (only) :

The project was funded by Bispebjerg and Frederiksberg Hospital Research Foundation

#23017 : Assessment of pre-hospital care of pediatric traumas : a retrospective study from January 2010 to December 2017 in the Haute-Garonne department

Authors:

Lola Griot (1), Anne-Laure Chevrin (1), Sandrine Charpentier (1)

1. SAMU 31 / Emergency departments, Toulouse University Hospital, Toulouse, France

Keywords: trauma centre, trauma, paediatric, pre-hospital, epidemiology

Abstract :

Assessment of pre-hospital care of pediatric traumas : a retrospective study from January 2010 to December 2017 in the Haute-Garonne department

Introduction

In order to set up a paediatric trauma centre, we studied the epidemiology of the paediatric traumas in Haute-Garonne from January 2010 to December 2017. The secondary objective was to evaluate the impact of the creation of a mixed (adult and paediatric) trauma centre in 2014 on the management of severe trauma in children.

Methods

Our study is an epidemiological, retrospective, descriptive study of severe trauma paediatric victims in Haute-Garonne.

All under-15 (y.o.) patients suffering from a severe trauma requiring treatment in an ICU ward and dealt with by the French pre-hospital Emergency Medical Service (SMUR) (were included). Were included.

Results

68 patients were included. A majority of 65 % were boys with a median age of nine years old. The most common traumas were cranial traumatism (81%), mechanism being mostly domestic accidents (62%) and traffic collisions (28%). 49 % of the traumas happened in summer (May-August). We observed an overall mortality of 12 %, and 73 % of the patients ended up with sequelae, especially hearing loss.

The creation of a trauma centre led to improvement in following guidelines, in particular in terms of fluid resuscitation, but no changes in morbidity and mortality rate.

Discussion

Analysis of the data evolution before and after the setting of the trauma centre in 2014 shows an improvement in care of trauma patients without improving morbidity and mortality rates. Setting up a paediatric trauma centre might enable better care through standardisation of practices and the optimisation of the orientation of those patients.

#23018 : Mathematical estimation of victim severity distribution in nerve-agent mass casualty incidents**Authors:**

Ruben De Rouck (1), Michel Debacker (1), Ives Hubloue (1)

1. Research Group on Emergency and Disaster Medicine, Vrije Universiteit Brussel, Brussels, Belgium

Keywords: sarin, nerve agent, disaster preparedness, CBRNe, mass casualty incident, disaster medicine

Abstract :**Introduction:**

Recent events with public usage of chemical warfare agents have highlighted the importance of chemical disaster preparedness, to which resource estimation is paramount. Mathematical modeling systems for casualty estimation already exist for military purposes, as reported in the AMedP-7.5 and AMedP-8C publications. This methodology can be applied to the general population for victim estimation in a civilian chemical mass casualty incident. Sarin gas was used as an exemplary agent due to the large amount of available evidence for clinical course and treatment, based on human and animal exposures.

Methods:

The AMedP-7.5 mathematical model and AMedP-8 victim profile for casualty distribution calculation were adapted for the general population using the methodology described originally by Crosier & Sommerville. Using the parameters obtained, severity estimations were assigned using the NATO Triage system which is divided in 3 main categories: T3 (= green) representing the least severe category, T2 (orange) representing moderately injured victims and T1 (= red) representing severely injured victims. Triage was assumed to take place in between 30 and 90 minutes after exposure, using signs and symptoms expected during this period. Untreated victims with lethal injuries are presumed to have died in this period.

Victims triaged as T1 are severely injured and require airway management and antidote treatment, while T2 victims are able to support their own breathing. T3 victims mainly have ocular symptoms and slightly to no respiratory compromise. Three exposure levels were selected for further analysis, representing mild, moderate and severe exposures, adapted from AMedP-7.5. These exposure levels assume a normal sized, healthy adult of 70kg.

Results:

Calculated exposure values were 0.81, 16.9 and 22.3 $mg.min.m^{-3}$ for mild, moderate and severe exposures respectively. Mild exposures will result in 18.1% unaffected individuals and 81.9% T3 victims, having no T2 or T1 victims. Moderate exposures will result in 0.3% T3 victims, 84.2% T2 victims, 8.5% T1 victims and 7.0% deaths on site. Severe exposures will result in no T3 victims, 59.1% T2 victims, 16.4% T1 victims and 24.4% deaths on site.

Discussion:

Hospital capacity estimation is usually based on an assumed relationship between T1, T2 and T3 victims, based on earlier experiences in traumatic mass casualty incidents. A commonly cited distribution in Belgium is 1-2-4, meaning 4 T3s and 2 T2s for every T1 victim. This mathematical modeling exercise casts doubts on the applicability of these rules-of-thumb and suggest the need for flexibility.

While in this exercise Sarin was used as the principal chemical agent, other agents can be modeled by adapting the parameters. This approach uses a one-size-fits-all approach and assumes equal effects of the same exposure throughout the population. Caution should be used when extrapolating these results to selected populations such as children or elderly, as they are assumed to be more severely affected.

Conclusion:

Victim severity distribution during chemical incidents can vary from a large percentage of mildly intoxicated victims, to a high number of victims requiring intensive treatment, depending on their intoxication level. Hospitals should prepare for both extremes in their hospital disaster plan.

#23019 : Emergency department attendance during first COVID 19 quarantine en Lorca´s Hospital

Authors:

Luis Jose Escobar Alvaro (1), Maria del Mar Muñoz Arqueros (2), Julia Muñoz Arqueros (3), Arturo Corbaton Anchuelo (4), Joaquin Jimenez Gonzalez (1), Maria Ángeles Mayol Villescas (1), Luis Antonio Brito Durullard (1), Jhonson Aquino Escalante (1)

1. Emergency Department, Hospital Rafael Mendez, Lorca, Spain
2. Transplants Unit, Hospital Virgen de la Arrixaca , Murcia, Spain
3. Emergency Department, Hospital Morales Meseguer, Murcia, Spain
4. Emergency Department, Hospital Clinico San Carlos, Madrid, Spain

Keywords: COVID 19, Emergency attendance

Abstract :

Background: On March 14, 2020, the Spanish government established a quarantine period for the entire Spanish population for a period of 15 days, due to the health crisis caused by the COVID 19 pandemic. Many hospitals of the national health service were collapsed by the avalanche of patients. Our study aims to knowledge the attendance at the Emergency Department of our hospital during that period compared to the previous year.

Methods: Retrospective descriptive study, analyzing the hospital's computer files regarding the demand for care, discharges and admissions from the emergency department between March 14 and 29, 2020, compared to the same dates in 2019.

Results: During the period 1222 patients attended the ED, of which 989 were discharged, and 233 were admitted to the hospital. The admission rate with respect to total urgent visits was 19%. In the same period of 2019, 3973 patients attended the ED, of which 3556 were discharged, and 417 were admitted to the hospital. The admission rate with respect to total urgent visits was 10.5%. Total visits in the period in 2020 were 30% of the visits in 2019, 2020 admitted patients were 55.8% of those in 2019, and discharged patients in 2020 were 27.8% compared to 2019.

Discussion & Conclusions: During the first 15 days of quarantine, our emergency department not only did not collapse, but also suffered a significant decrease in both total and hospitalized patients. Only the admission rate increased.

#23020 : Tobacco imputability in the occurrence of acute coronary syndrome with segment ST elevation**Authors:**

oussema acheche (1), marwene kacemi (1), arij bakir (2), lotfi boukadida (2), salma ben said (2), rym youssef (2), asma zorgati (2), riadh boukef (2)

1. urgence, CHU sahloul, sousse, Tunisia
2. urgences sahloul, CHU sahloul, sousse, Tunisia

Keywords: Tobacco, acute coronary syndrome, segment ST elevation, Smoking, MACE event

Abstract :

Introduction: STEMI is most frequent with younger patients and smoking is the major cause of the disease occurrence

Purpose: the aim of this study is to accuse tobacco as a major and independent risk factor of the occurrence of SCA ST + in a younger population.

Materials and methods: Retrospective study is based on all the patients consulted for chest pain in the emergency room of sahloul and who are diagnosed with STEMI according to a pathological ECG which shows a persistent segment ST elevation. The patients are divided into two groups: smokers and non-smokers groups. All the demographic, clinical and biological characteristics of patients are noted. Statistical analyzes are carried out by using SPSS18.

Results: 638 patients included in a study of which 322 were smokers and 316 were non-smokers. Comparing the two groups according to age, the smokers are younger than the non-smokers with a significant difference ($p < 0.001$). A significant difference among gender-based groups. The difference is also notable in the become STEMI patients admitted to the ER within a month: in fact all smoking patients resorted to use angioplasty after a pathological coronary angiography; Among them, 5.6% of smokers group manifested a MACE event in one month versus 2.1% of non-smokers with a significant difference ($p = 0.004$). however, the re-consultation rate is in non-significant between the two groups.

Conclusion: Smoking represents an essential prevention challenge for all players in public health, in particular emergency room physicians and cardiologists. Better control of this factor, in primary prevention, would avoid cardiovascular accidents at youngest possible age, and, in secondary prevention, would reduce the number of cardiovascular accidents by the half within patients who stop smoking

#23021 : Frequency of polytraumatic patients in one single emergency department in Latvia: retrospective study

Authors:

Jelena Puksle (1), Jevgenijs Kravcuks (1)

1. Emergency Department, Pauls Stradins Clinical University Hospital, Riga, Latvia

Abstract :**Background:**

Pauls Stradins Clinical University Hospital is one of the largest tertiary care hospitals in Latvia, but it is not a dedicated trauma hospital, as it does not have an organized trauma team and defined polytrauma protocol. However, there are about 7000–8000 different trauma patients every year, including multiple severe trauma, which during prehospital examination are not defined as "polytrauma". The aim of this study is to define the number of polytraumatic patients arriving in P.Stradins Clinical University Hospital during one year, their demographic characteristics, trauma severity and outcome, to determine the necessity of trauma care improvement and trauma team creation.

Methods:

The single center one year (2019 January – December) retrospective study was conducted in multicare hospital – Pauls Stradins Clinical University Hospital. We enrolled all acute adult patients that were brought to the Emergency Department (ED) and underwent computed tomography (CT) using polytrauma protocol due to suspicion of multiple trauma. The patients' case files and radiologic examination descriptions were observed; demographic data and data about trauma mechanisms and outcome were collected. Traumatic findings were classified and Injury Severity Score (ISS) was calculated.

Results:

In total, within one year there had been 112 patients that underwent computed tomography using polytrauma protocol in P.Stradins Clinical University Hospital. Out of them 74% (n – 83) were males, 26% (n – 29) – females. Most of the patients were younger than 30 years – 24% (n – 27), and in the age group 40–49 years – 21% (n – 24). Trauma mechanisms of observed patients were different: mostly – road traffic accidents – 54% (n – 60), falls – 17% (n – 19), unknown causes – 9% (n – 10), criminal trauma – 8% (n – 9), domestic trauma – 7% (n – 8), work injury – 4% (n – 5), suicide attempt – 1% (n – 1). In 63% (n – 71) cases there were different traumas, in 37% (n – 41) there were no traumatic findings after CT. Out of all cases with traumatic findings 28% (n – 20) can be classified as polytrauma ($ISS \geq 16$), 10% of them – severe trauma ($ISS \geq 25$). 38% (n – 43) of all patients were hospitalized, 10% (n – 11) were transferred to other hospitals right away, mostly trauma centers, 1 patient has died ($ISS = 24$) at the Emergency Department. Out of all hospitalized patients 21% (n – 9) died; 7 of them because of trauma with $ISS 17-29$.

Discussion and conclusions:

Despite P.Stradins Clinical University Hospital not being a trauma center, we can see that serious and even severe multiple trauma patients are admitted to the Emergency Department. Mostly these patients are young males at their best working age.

It is necessary to develop a trauma team in the P.Stradins Clinical University Hospital, to initiate a structured trauma care algorithm, and to optimize trauma patient examination and therapy. More data and statistics required for a further research.

#23022 : Comprehensive Evaluation of the General Hospitals (Level 1-3) Emergency Surge Capacity for Infectious Outbreaks Diseases: Taking COVID-19 Infected Pneumonia as an Example**Authors:**

Wanting Wang (1), Tang Shiyuan (1), Rong Yao (1), Yu Haifang (1), Ma Wen (1), Cao Yu (1)

1. Emergency, West China Hospital, Sichuan University, Chengdu, China

Keywords: emergency surge capacity, emergency management, COVID-19, system modeling

Abstract :

The pneumonia epidemic of the new coronavirus infection that began in early 2020 has reflected the emergency management problems and the emergency response-ability of hospitals at all levels when facing the epidemic in its early stage : (1)Hospitals at all levels need to face the outbreak of epidemic situation in the first time. (2) huge medical resources occupation, no resource allocation in time, no risk warning during disaster response for whether hospitals, medical resource produce systems or social support system. (3) the hospitals' medical rescue capabilities and emergency response capabilities are uneven at different levels and regions.

Simply put, hospitals at different levels and regions did not know what they can do, what they should do, how far their capabilities allowed them to go for now, what roles they have played and should play in the response medical system and if there were problems, how to solve them, and who should be asking for.

The emergency management problems highlighted by hospitals at different levels and regions have both commonality and characteristics. Therefore, this research objective should take the establishment of a comprehensive evaluation system for emergency management capabilities and medical rescue capabilities of hospitals in China as a response tool to an outbreak of infectious disease (taking COVID-19 infected pneumonia as an example). Using stratified sampling, expert consultation, questionnaire survey, principal component analysis and other research methods, we hope to establish a scientific evaluation model system that covers a variety of details that are highly related to emergency management capabilities and medical rescue medical capabilities.

Therefore, the research has established a comprehensive evaluation system for the emergency management capabilities of hospitals in China in responding to infectious diseases. It is suitable for the early stage of an outbreak epidemic, to quickly assess the hospital's emergency management capabilities can or can't deal with the epidemic, to identify weak links, and to warn of risks as much as possible. It can also be used for hospital self-examination and emergency medical capacity improving.

Trial Registration / Funding Information (only) :

Special Funds for COVID-19 Prevention and Control of West China Hospital of Sichuan University(HX-2019-nCoV-068)

#23023 : Non traumatic Headache in Toulouse emergency department : assessment and standardization proposal.**Authors:**

Kenza Oudrhiri (1), Frédéric Balen (1), Sandrine Charpentier (1)

1. SAMU 31 / Emergency departments, Toulouse University Hospital, Toulouse, France

Keywords: headache, neurology, protocol, diagnosis

Abstract :

Introduction:

Headache is a frequent motive observed amongst ER patients. ER physicians needs to reduce the suffering these patients while diagnosing the aetiology as fast as possible to accelerate their treatment. To our knowledge, there are no recommendations from French expert societies on headaches in the ER, nor a universal scientific consensus. The aim of our study is to assess the epidemiology of non-traumatic headaches within Toulouse university hospital emergency department, in order to establish a standardized care protocol.

Material and method:

Our study is a retrospective descriptive/observational study over two months, from November to December 2017. Patients from 18yo admitted for non-traumatic acute headache in the ER departments were included.

Results:

Acute headache represented 1,9% admissions in two months. 238 patients were included. The average age of the population was 39 years old, and its sex ratio of 0,63. Over the patients included, 20 (8%) needed an urgent care and 218 (97%) went out of the ER without a precise, confirmed diagnosis. In 157 cases (57%), physicians followed the usual acute headache care protocol of our emergency department. Our study allowed us to highlight predictive factors for urgent care: Glasgow coma score less than or equal to 14 ($p<0,0001$), high systolic blood pressure ($p=0,037$), hyperthermia ($p=0,035$), meningeal syndrome ($p=0,001$), and focal neurologic signs ($p=0,025$).

Conclusion:

Interview with the patient and physical examination are the clue of the diagnosis approach. They allow to draw a distinction between primary and secondary headaches. Some clinical criterions can help to distinguish benign headaches from secondary headaches marking life-threatening diagnosis.

From the our data, we developed a therapeutic and diagnosis care standardized protocol for acute headaches in our emergency department.

#23024 : Is the increased reporting of likelihood ratios in published papers similar for emergency and general medicine?

Authors:

Fatima Dema (1), Barnet Eskin (1), John Allegra (1), Caitlin Gaudio (1), Yi Zhou (2)

1. Emergency Department, Morristown Medical Center, Morristown, USA

2. , Morristown Medical Center, Morristown, USA

Keywords: Likelihood ratios, Emergency medicine, General Medicine, Evidence-based medicine

Abstract :

BACKGROUND. The 1994 publication of a "Users' Guide to the Medical Literature" in JAMA encouraged using likelihood ratios (LRs) in diagnostic testing over other measures such as sensitivity (SN), specificity (SP) and predictive values (PVs). LRs are uniquely helpful because they can be used to go from a pretest to a posttest disease probability in individual patients. We previously showed that reporting of LRs in emergency medicine (EM) publications increased by 12% and 16% in abstracts and papers, respectively, from 1997-1998 to 2017. We hypothesize that a similar increase would be found in the general medicine literature outside of EM.

METHODS: Design: Review of published diagnostic test papers. Protocol: We searched PubMed using the Medical Subject Heading (MESH) term, "diagnosis", excluding entries with the MESH term, "Emergency Service, Hospital". To obtain a quasi-randomized list, we a priori decided to sort the PubMed list by the surname of the first author and examined every tenth paper until we had accumulated 600 (chosen arbitrarily a priori). We then excluded non-English papers, those without a PubMed abstract and those for which we could not obtain the full paper. We chose papers with abstracts that included values for at least one of SN/SP, PV and LR. We examined papers in 1997- 1998 and in 2017. We tallied the number of papers in which values for SN/SP, PV and LR were found in the full paper and, also, in the abstract alone because some clinicians read only the abstract. We calculated differences and 95% confidence intervals (CIs) between the two time periods.

RESULTS: In 1997-1998 and 2017, 73 and 67 papers, respectively, met inclusion criteria. In 1997-1998, SN/SP, PV and LR were in 95%, 31% and 3% of the abstracts, respectively and in 97%, 48% and 4% of the papers. In 2017, the corresponding values were 85%, 30% and 6% and 96%, 63% and 19%, respectively. From 1997-1998 to 2017, LRs in the papers increased by 15% (95% CI, 2%, 27%). LRs in the abstracts alone did not change significantly.

CONCLUSION: In the general medicine literature, reporting of LRs increased significantly in papers (similar to that in EM) but not in abstracts over the last twenty years. LRs are still included in only a minority of published studies in both EM and general medicine. More needs to be done to educate clinicians about LRs and to encourage researchers, journal editors and reviewers to use them.

Trial Registration / Funding Information (only) :

N/A

#23025 : Assessment of the SOFA and Harmless scales for the prediction of adverse effects among patients diagnosed with acute pancreatitis in an emergency department.

Authors:

Raul Lopez Izquierdo (1), Castaño Cambor Pedro (2), Ingelmo Astorga Elisa (2), García Vesga Violeta (2), Henar Bergaz Diez (3), Delgado Alonso Lorena (2), Rosa Maria Castellanos Florez (4), Irene Cebrian Ruiz (3), Carlos Garcia Calvo (4), Berta Tijero Rodriguez (4), Raquel Talegon Martin (4), Juan Carlos Sanchez Rodriguez (4), Susana Sanchez Ramón (4), Henandez Gajate Mario (3), M^a Antonia Udaondo Cascante (5), Isabel Gonzalez Manzano (4), Inmaculada García Ruperez (4), Francisco Martín Rodriguez (6), Ramos Rodriguez Ana (2), Helena Hernandez Pérez (3), Fraile Simón Judit (2), Gonzalez Araujo María (2)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Emergency Department, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
3. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
4. Emergency Department, Hospital Universitario Río Hortega. Valladolid, Valladolid, Spain
5. Radiology department, University Hospital of Burgos, Burgos, Spain
6. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain

Keywords: Pancreatitis, prognosis, scores, emergency.

Abstract :**Background.**

Acute pancreatitis (AP) is a pathology that presents high morbidity and mortality and is relatively frequent in emergency departments (ED). It is very important to know the prognosis of these patients from the first moment since the diagnosis is made.

Aim:

To know the utility of the SOFA and Harmless severity scales to determine adverse effects among patients diagnosed with AP in an ED.

Material and methods:

Descriptive, retrospective study in an ED. Patients diagnosed with AP in an ED in 2018 have been analyzed. dependent variable: adverse effect (AE), adverse effect was defined: pseudocyst, abscess, necrosis, death in hospital or hospitalization in critical units. The SOFA and Harmless severity scales were calculated, a descriptive study of the sample: age, gender and Charlson index. The area under the curve (AUC) of the receiver operating characteristic (ROC) (95% CI) of different scores was calculated to dependent variable. Univariate and multivariate study using logistic regression and Odds Ratio (OR). Software: SPSS 24.0, $p < 0.05$

Results.

N: 173. Median age: 68.2 (18.4) years Female: 99 (58.2%). Adverse effect: 16 (9.2%). Mean age with AE: 64.9 (17.0) Mean age without AE: 68, 5 (18.5) ($p > 0.05$). AE according to gender: male: 14.9%, female: 5.1% ($p < 0.05$). High CI: 8%, low moderate: 11.7% ($p > 0.05$). AE: SOFA ≥ 2 : 11.9%, SOFA < 2 : 6.7% ($p > 0.05$); Harmless: 0 points: 6.0%, 1-2 points: 11.3% ($p > 0.05$). AUROC SOFA: 0.658 (95% CI 0.508-0.807) ($p > 0.05$), Harmless: 0.608 (95% CI 0.442-0.774) ($p > 0.05$). logistic regression and odds ratio (OR): age, gender and SOFA: age: 0.98 (95% CI 0.94-1.02) ($p > 0.05$), gender: 4.97 (95% CI 1.21-20.33) ($p < 0.05$), SOFA : 1.51 (95% CI 1.009-2.28) ($p < 0.05$); logistic regression and OR: age, gender and Harmless: age: 0.99 (95% CI 0.96-1.02) ($p > 0.05$), gender: 2.77 (95% CI 0.88-8.65) ($p > 0.05$), Harmless: 1.63 (95% CI 0.68-3.90) ($p > 0.05$)

Conclusions:

The only variable analyzed that has been associated with any AE is male gender. Although a SOFA greater than or equal to 2 and a score on the Harmless scale greater than zero has a higher

percentage of adverse effects, no statistically significant association has been evidenced. In the logistic regression by age, gender and SOFA: both gender and SOFA are independently associated with adverse effects, something that does not occur when analyzing age, gender and Harmless, in which no variable is associated with independently with AE. The AUROC of the SOFA and Harmless scales are not significant to predict AE. Of the two analyzed scales, although neither offers great reliability, it seems that the SOFA scale would be more appropriate to assess the appearance of the adverse effects studied among patients diagnosed with PA in ED.

#23026 : Infectious disease: unusual guilty?

Authors:

Ana Ramos Rodríguez (1), Ángela María Árevalo Pardal (1), Laura Fernández Concellón (1), Cristina Sal Redondo (2), Nieves Sobradillo Castrodeza (2)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain
2. Emergencias, Hospital Universitario Río Hortega, valladolid, Spain

Keywords: Infectious disease, cats , skin lesions

Clinical images of patients (suitably anonymised)

Patient images are involved and I have adequate permission to use them

Abstract :**Breves detalles clínicos**

34-year-old patient, no known drug allergies. Drug abuser. Personal history: bipolar disorder. Depression. Toxic myocarditis. Social intervention. En tratamiento con Valproico, Venlafaxina.

Asistencia al Departamento de Urgencias del Hospital para la fiebre hasta 38oC de 2 semanas de evolución sin respuesta a antipiréticas, coincidiendo con la aparición de lesiones lesiones en el cuerpo y el cuero se debe, que hijo dolorosa ni pruriginas. Astenia y malestar general, sin otra clínica asociada.

Descripción de las anomalías relevantes

Examen físico: Palpiel-mucosa, caquexia. Lesiones cutáneas diseminadas en diferentes etapas evolutivas: impeticionadas y cavitadas, pustulares, eritematosas. Marcas de arañazos de gato en ambas se encuentra superiores. Resto de anodyne de examen físico. Casa suburbana con 10 gatos sin control veterinario, todos losmuertos en las últimas semanas, con lesiones similares. Según la veterinario la causa fue una infección viral que el paciente no sabe cómo especificar. Análisis de sangre: 62300 leucocitos, 81% neutrófilos. Proteína C reactiva: 248. Lactato: 2.7. Resto de pruebas sin hallazgos patológicos. Ella enseña es en el departamento de Medicina Interna y mejora con éxito con los comens.

¿Por qué esta imagen es clínica o educativamente relevante?

Los médicos de urgencias están en el posible con las consultas dermatológicas, que deben un enfoque diagnóstico de enfermedades con mayor riesgo de vida.enfermedades infecciosas, recreas adversas). Una buena historia clínica, incluidos los datos epidemiológicos, es importante. Es bien conocer seaires sistémicas con manifestaciones cutáneas, una quese establece un buen diagnóstico diferencial y un adecuado adecuado.



#23027 : Can S100B be used as a point-of-care test to allow UK health care professionals to safely avoid CT scans in mild traumatic brain injury?

Authors:

Jayden Gittens (1), Abigail Clynych (1), Abdo Sattout (2)

1. School of Medicine, University of Liverpool, Liverpool, United Kingdom
2. Department of Emergency Medicine, Aintree University Hospital, Liverpool, United Kingdom

Keywords: S100B, point-of-care (POC), mild traumatic brain Injury (mTBI)

Abstract :**Background**

The “silent epidemic” of traumatic brain injury (TBI) is the biggest cause of death for those under 40 years old in the UK. Mild TBI (mTBI) is defined by a GCS score of 13-15 and is a common presentation to the Emergency Departments (ED). In certain situations, patients with mTBI will require a head CT scan as recommended by NICE guidelines to rule out an intracranial haemorrhage.

CT scans are readily available in most EDs but they still impose a significant amount of ionising radiation and can be sometimes challenging to perform in patients with underlying learning difficulties, dementia, alcohol intoxication or concurrent anticoagulant therapy.

S100 calcium binding protein B (S100B) is a glial-specific and expressed primarily by astrocytes, and is released following a head injury. It is one of the most studied biomarkers in TBI with several published studies.

Methods

This systematic review evaluated the potential use of S100B as a point-of-care (POC) test in mTBI in reducing the need for CT imaging.

PubMed, Scopus and Cochrane Library were used to look for English language cohort studies and control trials published up to February 2020 on S100B release on mTBI injury in humans. Duplications were removed and articles were assessed out of a total of 303 results.

26 studies were consequently selected for analysis. The studies were categorised according to their aim: determining reliability of S100B (n=21) and comparison of S100B against other markers (n=5).

Results

A cohort of 7,434 patients were enrolled into 26 studies. The majority (n=18) produced results that were in support of S100B being a clinically reliable point of care (POC) test for mTBI – owing to its high negative predictive value and sensitivity. From 15/18 papers, S100B had an average sensitivity of 95.4% (range 83.3%-100%) and a specificity of 32.2% (range 2%-100%). However, 5 studies also compared S100B against other well-known neuro-biomarkers and found that they were more clinically appropriate biomarkers such as glial fibrillary acidic protein (GFAP) (n=4) and ubiquitin carboxy-terminal hydrolase L1 (UCH-L1) (n=1). 3 papers concluded that S100B was not a suitable clinical biomarker for reducing CT scans as they found that it: is only good in combination with other biomarkers (n=1) and has limited accuracy

when blood samples are collected greater than 3 hours post-mTBI (n=2).

Conclusion

Research into S100B and its potential use in clinical decision making has produced some ground-breaking results. The promising results of this systematic review suggest that S100B should have a place in the UK guidelines for mTBI management in the near future. Nonetheless, it is felt that more studies must take place to confirm its reliability. A cohort study using well-defined S100B reference ranges, larger sample sizes, and serum sampling within 3 hours post-injury could be used to establish how much S100B can reduce the use of head CT scanning.

#23030 : Proinflammatory cytokines (interleukin-1 beta (IL-1beta), interleukin-6 (IL-6)) and anti-inflammatory cytokines (interleukin-10 (IL-10)), transforming growth factor beta (TGF-beta) in surgical trauma children**Authors:**

Jarosław Sobczak (1), Janusz P. Sikora (1), Dariusz Zawadzki (1), Przemysław Przewratil (2), Anna Wysocka (2)

1. Pediatric Emergency Medicine, Medical University of Lodz, Lodz, Poland

2. Department of Pediatric Surgery and Oncology, Medical University of Lodz, Lodz, Poland

Keywords: cytokines, surgical trauma, proinflammatory response, children

Abstract :

A prospective clinical study focusing on immunological markers (pro-and anti-inflammatory cytokines) following surgical trauma.

Objective: To evaluate the involvement of IL-1beta, IL-6 and IL-10, TGF-beta in surgical trauma (open surgery vs laparoscopic method) response in children and to use it in the further prognosis of postsurgical course.

Subjects and methods: Twenty-eight patients (15 cases – open surgery, 13 cases – laparoscopic method) hospitalised in the years 2017-2018 in the Department of Pediatric Surgery and Oncology, Medical University of Łódź, were included in our study. Serum IL-1beta, IL-6, IL-10, TGF-beta concentrations were evaluated twice using ELISA, with commercially available test kits (Quantikine human, R & D Minneapolis, MN, USA). Blood (1.5 ml) was taken by venepuncture into Microtainer Serum Separator tubes twice - the first determination of the immunological markers was performed just before the surgery, and the second one within the first 12-24 hrs after operation. For measurement of cytokines concentrations clotted blood samples were centrifuged immediately at 2500 rpm for 10 minutes and sera separated from these samples were stored at -70°C until they were assayed for the evaluation of antibodies.

Results: Significantly increased levels of IL-6 after open surgery ($p=0.005$) and laparoscopic method ($p=0.001$, Wilcoxon's test) were observed. Similarly, a significant increase of IL-1beta concentrations in children after laparoscopic surgery was noticed ($p=0.007$). Taking into account the impact of the disease on both IL-6 and IL-1beta concentrations it was revealed that the initial levels of these cytokines were not comparable in the studied children groups (for IL-6 $p=0.007$ before surgery versus 0.205 after surgery, and for IL-1beta $p=0.009$ before surgery versus 0.644 after surgery, Kruskal-Wallis' test); therefore we couldn't explicitly write what kind of operation caused the greater synthesis increase of the studied cytokines. It was revealed that laparoscopic method didn't impact on the achieved TGF-beta levels ($p=0.173$) after operation but open surgery significantly reduces this cytokine production ($p=0.02$, Wilcoxon's test). The kind of surgery didn't impact on IL-10 levels after operation both in open surgery ($p=0.593$) treated children and laparoscopic ($p=0.084$) patients. Additionally, the individual analysis demonstrated that the disease itself exerted more impact on proinflammatory host response as compared to the applied surgical method.

Conclusions: The results confirm the involvement of the studied immunological markers in the

pathogenesis of host inflammatory response to surgical trauma. The kind of surgery exerts an impact on the host response in a different way.

Trial Registration / Funding Information (only) :

Funding from a scientific grant

#23032 : FlattenCovid: A website to flatten the curve during the Covid-19 pandemic

Authors:

Collective* Flatten Covid (1), Benoit Viault (1), Julie Oudet (1), Marion Graciet (1), Christian Lehmann (2), Florent Battefort (1)

1. SAMU 31 / Emergency departments, Toulouse University Hospital, Toulouse, France
2. , none, Poissy, France

Abstract :**Background:**

Early December 2019, a new SARS-CoV was discovered in Hubei Province in the People's Republic of China. After having spread all over the world, WHO declared the pandemic mid March 2020. Very quickly Europe became the epicentre of the outbreak pushing all Healthcare systems to their limits, facing exceptional demands in terms of capacity and workforces. Given this situation, we believe that it is hard for doctors and health care workers to provide cutting-edge quality care to patients in need, whilst carrying out the time-consuming task of reading through a large number of publications to extract relevant key-points for their daily practice. To help the latter, we created a website to centralize and summarize all relevant and up-to-date recommendations. To reduce the spread of the virus, people must to know protectives measures and how to apply them.

Objective :

The objective of this web support is to identify and circulate up-to-date essential information about the disease, the patient's care and the protective measure to be applied.

Methods :

We have recruited, organised and trained a team of healthcare student volunteers to:

- Produce a **decision-making algorithm** along the patient's pathway and **summary sheets** based on national guidelines
- **Abstract scientific articles** in different fields (epidemiology, biology, clinical...)
- Create **newsletters twice a week** to inform subscribers on specific topics and updates, including scientific reports with relevant news from the past days.
- **Communicate** about our activities on social media and all other means.
- **Record videos** in several languages to explain the importance of protective measures

Results :

We produced **20 videos** (in French, English, German, Italian, Japanese...), **10 summary sheets** (clinical signs, biological signs, radiological signs, diabetes, paediatric, ...) and **8 newsletters**.

About site statistics :

- **884 person are subscribed** to our newsletter
- In one month **42 524 people** visited the site
- Our videos have been watched on average **500 times**

Conclusion & perspectives :

We believe recruiting and training healthcare students in a time of crisis can facilitate the transmission of medical information and recommendations to healthcare providers, and help to maintain crucial updated knowledge in point-of-care practitioners. This web site t is also an opportunity to popularize scientific information.

*Anna Aldanondo, Marine Baudeau, Alaedine Benani , Thomas Chivot, Léna Clerquin, Julie Finkel, Ines Lakehal, Céline Laroche, Eulalie Liorzou, Florian Martinet-Kosinski, Idris Mezerai, Inès Nidegger, Juliana Pi Macedo, Etienne Sagnet, Emma Vaillant, Antonin Verdier, Louise Vergnes, Aurélien Wyngaard

#23033 : Spontaneous spinal epidural hematoma: a case series in the emergency department**Authors:**

Erika Y. Céspedes-Suzuki (1), Patricia Martínez-Olaizola (1), Mercedes Varona-Peinador (1), Enrique Vázquez-Lorenzo (2), Maite Plaza-San Martín (1), Idoia Madariaga-Ordeñana (1)

1. Emergency, Osakidetza - Basque Health System, Bilbao, Spain
2. Neurosurgery, Osakidetza - Basque Health System, Bilbao, Spain

Keywords: epidural hematoma, spontaneous hematoma, hematoma, magnetic resonance imaging

Abstract :

INTRODUCTION

Spontaneous spinal epidural hematoma (SSEH) is a rare entity in the emergency department (ED), occurs in less than a case per million person-years. It is traditionally associated with anticoagulant or antiplatelet therapy, blood dyscrasias and arteriovenous malformations, although its pathogenesis remains still unknown. The present study aims to report some cases of SSEH and review the previous studies.

METHODS

A retrospective case series study was conducted between January 2018 to January 2020 in the ED of a tertiary university hospital. Three cases of SSEH are described and data comes from electronic clinical records. We extracted epidemiological and clinical features, risk factors, diagnosis, evolution and treatment.

RESULTS

The patients were two males and one female, aged between 61 and 80. None of them were hypertensive. In two of the patients, glomerular filtration rate (GFR) was normal; in the third, GFR was 46mL/min/1.73m². None of them had personal history of trauma, nor intervention as a cause of the hematoma. One patient was taking Acenocumarolas therapeutic anticoagulant and another was taking Enoxaparin as prophylactic therapy. The third was not taking any drugs and had no coagulation disorders. The delay between the onset of symptoms and going to emergency services was: 1 hour and a half, 7 hours and 78 hours. All presented intense back pain (cervical, dorsal or lumbar) followed by neurological sensitive-motor deficit. One patient presented loss of bladder control. The diagnosis was carried out by Computed Tomography (CT) and Magnetic Resonance Imaging (MRI). The location of the injury in the three patients was: 1) dorsal anterior T4 to T7 with myelopathy radiological data, 2) cervical posterior left C2 to C3, and 3) cervical thoracic C2 to T3.

The patient who was not taking anticoagulants took 78 hours to go to the ED, presenting sensory-motor deficit together, sphincter disorders and myelopathy radiological data. Treatment was surgical, with a decompressive laminectomy. Medullary angiography ruled out vascular malformations associated to the hematoma.

In the other two patients, anticoagulation was reversed, followed by a conservative treatment. The modified Rankin scale before the episode and at the time of discharge of the patients was:(0 to 4), (2 to 3) and (2 to 4).

CONCLUSIONS

We should suspect SSEH in case of back pain (cervical, dorsal or lumbar) starting suddenly followed by a neurological deficit. A cranial and spinal CT scan was carried out (more commonly available in ED) and MRI, which is the diagnostic method of choice. Urgent reversion of anticoagulation is essential in anticoagulated patients. Generally, treatment is surgery, consisting of decompressive laminectomy and evacuation of the hematoma. Nevertheless, if the deficit is resolved spontaneously or is minimal, in patients with a high surgical risk, a conservative medical treatment is followed. SSEH is a serious medical-surgical emergency that can rapidly produce progressive and irreversible neurological damage; therefore, it is imperative to carry out early diagnosis and treatment to obtain the best outcomes.

Trial Registration / Funding Information (only) :

No funding

#23035 : Is a whole-blood protocol a viable alternative to component therapy in haemorrhaging major trauma patients: a systematic review

Authors:

Abigail Clynych (1), Jayden Gittens (1), Abdo Sattout (2)

1. School of Medicine, University of Liverpool, Liverpool, United Kingdom
2. Department of Emergency Medicine, Aintree University Hospital, Liverpool, United Kingdom

Keywords: major trauma, major haemorrhage

Abstract :**Background**

At present, blood component therapy is considered the gold-standard treatment for haemorrhaging major trauma patients. In the military setting, soldiers are commonly transfused with whole-blood and studies involving this patient group have demonstrated the benefits of this method. Military procedures are often found to be effective within civilian major trauma patients and then implemented accordingly as shown recently with the CRASH-2 study.

Methods

Our study is a systematic review aimed to identify if the use of whole-blood should replace component therapy as common civilian major haemorrhage protocol.

A review of published literature was performed to identify studies or control trials which explored the use of whole-blood in military or civilian major trauma patients. Articles from the past 10 years (2010-2020), involving humans in the English Language were searched within PubMed and MEDLINE. Excluded were paediatric patients and singular case studies.

Results

306 articles were identified with 16 papers included for analysis. The papers were then placed into 4 different topic groups based on their focus: clinical outcomes and transfusion volumes (n=6): safety, feasibility and implementation (n=4); effects on coagulation (n=2); storage and processing (n=4).

11 papers produced results in favour of whole-blood use amongst trauma patients; improved survival (n=2; CI=0.02-0.53; 1.314-7.618), decreased transfusion volume after sensitivity analysis (n=1; p=0.02), shortened time to normalised lactate (n=1; p=0.05), reduced traumatic coagulopathy (n=1; CI=0.00-0.18), delayed benefit of whole blood use on coagulation (n=1), successful implementation of protocols (n=2), whole blood use is both feasible and safe (n=2), refrigeration of whole-blood attenuated decrease in

aggregation and increase in prothrombin time (n=1; $p \leq 0.001$).

5 papers produced results which opposed the use of whole-blood amongst trauma patients; no significant difference in clinical outcomes or transfusion volumes (n=2; $p=0.24$, $p=0.33$; $p=0.52$, $p=0.72$), minimal difference in coagulation effects between whole-blood and component therapy (n=1), filtration has a negative impact upon platelet aggregation (n=2), leukoreduction has a negative impact upon platelet aggregation (n=1).

Overall, the majority of papers showed potential benefits to the use of whole-blood in haemorrhaging major trauma patients.

Conclusions

There are potential benefits to implement a whole-blood centred protocol. However, further discussion must take place within the medical profession. This should include larger scale randomised control trials exploring the direct impact of lactate clearance in major trauma patients upon clinical outcomes and a cost comparison to ascertain the most economically viable protocol.

#23036 : Toxicokinetics of nerve agents in the swine model for a better translation to human**Authors:**

Florent Fémy (1), Charlotte Courageux (2), Gwladys Meesemaecker (2), Romain Goulay (2), Aurélie Nervo (2), Florian Nachon (2), Nina Jaffré (3)

1. Emergency department, Assistance Publique Hôpitaux de Paris; Georges Pompidou European Hospital and Medicine faculty, René Descartes University, PARIS, France
2. Département toxicologie et risques chimiques, Institut de recherche biomédicale des armées, Bretigny-Sur-Orges, France
3. Département toxicologie et risques chimiques, Institut de recherche biomédicale des armées, Brétigny-sur-Orge, France

Keywords: Organophosphates, Toxicokinetics, Cholinesterases, Swine

Abstract :**Background:**

Organophosphorus nerve agents (OPNA) are a current military and terrorist threat which urge to improve existing emergency treatment of OPNA intoxication. The inhibition of the cholinesterases (ChE) by OPNA leads to an accumulation of acetylcholine which causes a cholinergic crisis. The efficacy of the etiologic treatment of OPNA intoxications with enzymatic reactivators depends on the pharmacokinetics of the reactivator and the toxicokinetics of the OPNA. To test the efficacy of new therapeutic molecules, clinical studies are not conceivable and the use of animal models is essential. In that regard, the swine model is interesting for the translation of toxicokinetic parameters to human. Its size allows multiple blood sampling necessary for the kinetics and a multiparametric monitoring similar to human clinical settings. Its similarity in skin properties with human eases the extrapolation of the percutaneous intoxication route with V-agents. We have therefore chosen the swine model to characterize the toxicokinetics of two organophosphates: a pesticide, paraoxon, and a nerve agent, VX.

Methods:

7 juvenile pigs anesthetized with sevoflurane were poisoned intravenously with doses ranging from 0.1 to 5 mg / kg of POX and 4 pigs exposed to a dose of 239 to 498 µg / kg of VX percutaneously. Continuous cardio-respiratory monitoring, clinical follow-up and repeated blood sampling were performed up to 6 hours post-intoxication. Blood toxicokinetic data and ChE activities were measured using enzymatic methods, based on the Ellman assay.

Results:

As expected, there is a decrease in blood ChE activities, correlating with the amount of toxic administered and with the appearance of intoxication signs. The decrease is more important in AChE than in BChE activities. The blood ChE activities decrease instantly in the animals intoxicated intravenously with paraoxon, whereas we observe a delay of 20 to 60 min before the decrease in the animals intoxicated with VX percutaneously. The toxicokinetic method based on the Ellman assay can detect down to 1 nM of organophosphates in the blood. The organophosphates are detected once the blood ChE activities are severely decreased (less than 40 % of remaining activity).

Conclusion:

This study has led to the development of a toxicokinetic assay based on the Ellman method. We have obtained simultaneously in the swine model the blood organophosphate concentration, the inhibition of ChE and the symptomatology. These preliminary experiments will be extended to larger groups of animals for each OPNA and pharmacokinetics of oximes to obtain a dynamic model with a better translation to human.

#23037 : Tuning concussion in the ED: A quality improvement project focused on the management of mild TBI in the Emergency Department

Authors:

Juan Rosales (1)

1. Emergency Medicine, UCLH, London, United Kingdom

Keywords: mild TBI, concussion, post-concussion syndrome, head injury, Emergency department

Abstract :

Patients attending with traumatic brain injuries (TBI) account for a significant number of Emergency Department (ED) encounters, with as many as 1.4 million people presenting each year in England and Wales. Of these, up to 85% will manifest as a mild TBI, commonly known as *concussion*. In sports medicine, coaches and physicians learn about the management of *concussion* as part of their training, but this is not the case with ED and hospital clinicians. Head injury management in EDs is still routinely focused on, and practically limited to, recognising severe TBI. It has been proposed that proper training and resourcing, as well as early recognition of mild TBI in the ED, could facilitate appropriate management and improved recovery times, in a similar fashion to sports people with a period of cognitive and physical rest, followed by a supervised gradual return to their normal pre-injury activities.

This project was based at a London district general hospital. High return rates of patients to the ED were identified with persistent post-*concussion* symptoms following a head injury. Possible explanations for this include lack of staff awareness on this condition, failure to appropriately counsel patients and absence of an adequate follow-up pathway.

This project aimed at improving patient care and counselling in the emergency management of those with post-*concussion* features as evidenced by reducing the number of repeat attendances of patients with persisting symptoms following a mild TBI by 50% in one year by August 2019.

Solutions based on the model for improvement's PDSA methodology, i.e. Plan-Design-Study-Act cycles, contributed the selection of the following interventions: devise a new referral pathway for these patients, design a new extended *concussion*-friendly head injury advice leaflet and delineate a comprehensive head injury standard operating procedure document illustrating a more effective patient journey through the ED.

The main outcome measure was defined as the number of patients re-attending to the ED with post-*concussion* syndrome. Process measures included number of patients referred to outpatient clinics, staff

knowledge and awareness through questionnaire responses and patients' level of satisfaction via a telephone survey.

Weekly re attendance rate of patients with symptoms of mild TBI decreased from 3-6 cases to only 1 or occasionally none per week. Referral pathway was increasingly used with 1-2 patients per month initially, both for those with sport and non-sport related injuries. Patient satisfaction level rose from 50% to 80% overall, amongst those seen and treated with mild TBI. ED clinicians were also increasingly more aware and knowledgeable about post-*concussion* management, with a significant increase in their confidence in recognising these cases from 50% to nearly 100%, and improved practice according to newly introduced standards.

Patient care was improved with the introduction of new resources and guidance for examination, investigation and onward management of post-*concussion* syndrome. A general Head Injury Standard Operating Procedure (SOP) policy was successfully introduced and it established a guideline for sustainable change in clinical practice at this local ED.

#23038 : Trauma Team management in major trauma: is it effective?

Authors:

Valerio Teodoro Stefanone (1), Riccardo Pini (2), Francesca Innocenti (2), Maurizio Zanobetti (2), Anna De Paris (2), Rudy Marchetti (2), Francesco Lombardini (2)

1. Emergency Department, Florence University, Alba, Italy

2. Emergency Department, Florence University, Florence, Italy

Keywords: trauma, major trauma, trauma team, trauma management, effectiveness

Abstract :**Background**

Throughout history, trauma has been one of the major causes of early death and disability, second only to infectious diseases. In the last 50 years, significant steps were made in trauma management, thanks to the implementation of ATLS courses and the institution of Trauma Teams (TT). TT is a multi-specialist and multi-professional healthcare team crew that intervenes in the event of a life-threatening traumatic pathology. The role of a TT is to guarantee a simultaneous multidisciplinary approach in the management of traumatized patients.

Aim of the study

In August 2018, a TT has been introduced at Careggi University Hospital (Florence, Italy). Our aim was to analyze if this new organization, compared to the previous standard care, led to a more efficient treatment in terms of shortening of management times and clinical outcomes. In our study, the TT included an emergency physician, an anesthesiologist, a general surgeon, a radiologist, an orthopedic, an airway attending nurse, a circulation attending nurse, an X-ray technician and a social health operator.

Methods

In this prospective observational study the control population (Group 1) was enrolled from March 19th 2018 and July 31st 2018, whereas the study population (Group 2) was enrolled from August 1st 2018 (TT introduction) and June 17th 2019. Patient's enrollment criteria were the same for the two groups, namely access in the Shock Room of the Emergency Department (ED) for major trauma. Recorded data included: relevant past medical history, alert times, patient arrive and departure times, performed procedures (both diagnostic and therapeutic), time of activation of the TT components and their arrive in the Shock Room, patients outcomes and survival at the exit from the ED.

Results

During this study period, 322 patients were admitted into the Shock Room due to major trauma: 82 patients in G1 and 240 patients in G2. Access features and clinical conditions were similar in the two groups. The TT introduction was associated with a reduction of team component's arrival in Shock Room as well as with a reduction in the duration of the diagnostic–therapeutic pathway. However, there were no significant differences in terms of total time spent by patients in the ED nor clinical outcomes between G1 and G2.

Conclusions

The introduction of TT in a regional reference Trauma Center significantly reduces the time spent to involve the specialists responsible for the management of the trauma patient. Consequently, the speed with which the patient is managed within the Emergency Department increases significantly. These advantages are not reflected in a better clinical outcome.

Trial Registration / Funding Information (only) :

no funding

#23039 : Firearms injuries : study of 56 cases

Authors:

Jihene Karouia (1), Monia Chihaoui (2), Mekki Ben Salah (2)

1. , , Tunis, Tunisia

2. Military EMS, Military Hospital of Tunis, Tunis, Tunisia

Keywords: Firearm injury, emergency medical service, pre-hospital management**Abstract :****Introduction:**

In Tunisia, firearms injuries have long been an area reserved for the military. But nowadays, with the rise of terrorism, projectile injuries are increasingly affecting the civilian population. The characteristics of this type of lesion depend on the physical characteristics of the bullet and the tissues affected by the impact.

Objective:

The study of epidemiological, clinical and therapeutic characteristics of firearms injuries.

Methods:

We have selected in our study 56 ballistic wounded supported by the Military Emergency Medical Service (EMS), from personal observations collected at the Military EMS center, over a period of 4 years and a half, from June 2013 to December 2017.

Results:

In 2013, 13% of firearm injuries were reported by Military EMS, 20% in 2014, 39% in 2015, 9% in 2016 and 20% in 2017. Ballistic wounded were most often active military personnel (75% of cases). The average age was 27 years old. A male predominance was noted (93% of the wounded). The Military EMS was most often involved in a Regional Hospital (46% of cases) and in the workplace (32% of cases). These interventions mainly took place in Tunis (63% of cases). These traumas were of criminal origin in 75% of cases and accidental in 25% of cases. The outings of the EMS team were primary in 36% of cases and secondary in 64% of cases. The average outing time was 52 minutes and the average duration of intervention was 235 minutes. Injuries were present in the lower limbs in 39% of cases, upper limbs in 27% of cases, thorax in 23% of cases, skull in 7% of cases, face in 5% of cases and abdomen in 5% of cases. The exit port of the bullet was present in 60% of cases. The injuries were complicated by a fracture in 60% of cases, bruises in 20% of cases, vascular injury in 20% of cases, hemopneumothorax in 12% cases, hemorrhagic shock in 10% of cases, pneumomediastinum in 2% of cases and subcutaneous emphysema in 2% of cases. Five wounded benefited from the introduction of a tourniquet before the arrival of the EMS team. All fractures were immobilized before transport by the EMS team. Of those wounded who were initially managed in regional hospitals, 6 required surgical trimming, 6 thoracic drainage, 2 intubation, 4 transfusion, 1 arterial ligation and 1 ocular enucleation. During the

transport by military EMS, the wounded were put under analgesic in 90% of cases, volume expansion in 60% of cases, oxygen therapy in 20% of cases and vasoactive drug in 6% of cases. Receiving departments were mainly the Emergency Room (49% of cases), the Intensive Care Unit (21% of cases) and Orthopedics (11% of cases).

Conclusion:

The pre-hospital management of ballistic wounds must ensure stability of vital functions (tourniquet, exsufflation, ...), immobilization of fractures and analgesia. But lesions often remain serious.

#23040 : Case of an Accidental Self-intravenous Epinephrine Injection by Medical Personnel**Authors:**

Hyunseung Koh (1), Duk Ho Kim (1), Hee Bum Yang (1)

1. Department of Emergency Medicine, Nowon Eulji Medical Center, Eulji University, Seoul, Korea, Republic of

Keywords: Epinephrine, overdose, medical personnel, toxicology

Abstract :

We report a case of an accidental self-intravenous epinephrine injection by medical personnel. To our knowledge, there had been no case report of an accidental self-intravenous epinephrine injection and its causative effects.

On September 19th 2019, we received a call from local hospital giving heads up of a patient on a way to our emergency medicine center. The patient's was twenty eight year old female surgical nurse who accidentally self-administered epinephrine intravenously instead of one ample of Ketocin (Kotorolac tromethamine 30mg/ml) and was in mildly drowsy state afterwards. Her systolic blood pressure repetitively measured around seventy's and was unresponsive to 1.5 liters of isotonic saline infusion and therefore being transferred.

Upon patient's arrival, she stated that while she was preparing for operation as a scrub nurse, she was having severe menstrual cramps. Therefore she had planned to self-inject analgesic before undergoing surgery. She stated she had mistakenly injected one ample of epinephrine 1mg/ml (1:1000 solution) instead, since those two bottle had similar color label.

Vital signs were as follows: blood pressure 82/61 mmHg, respiratory rate nineteen breaths per minute, body temperature 36.3 Celsius and percutaneous oxygen saturation 86%.

Our initial impression was rebound hypotension following epinephrine injection and began our management on the patient. Two liters of oxygen was applied via nasal prong for low oxygen saturation measured, and 400ml of an additional isotonic solution was administered. Chest x-ray revealed pulmonary edema on both lung fields. Arterial line and central line were inserted for continuous monitoring. Central venous pressure was 26.5cm H₂O and cardiac enzymes were elevated above normal range. For treatment of pulmonary edema and presumed congestive heart failure, foley was inserted and one ample of furosemide (20mg/2mg) was intravenously injected.

On September 20th, echocardiography test showed normal sized cardiac chambers with reduced left ventricular systolic function (ejection fraction 45%) and regional wall motion abnormality (RWMA) suggesting mild stress induced

cardiomyopathy (SCMP).

Norepinephrine infusion, and oxygen supply was gradually reduced until it was no longer needed. Furthermore, cardiac enzyme levels gradually decreased and follow up x-ray on September 22, showed no signs of pulmonary edema. Eventually, the patient was discharged on September 23rd without any remaining symptoms. On outpatient follow up visit on October 10th, echocardiography result showed normal left ventricular systolic function, and no signs of RWMA.

There are a few reports of incidence of SCMP caused by incorrect epinephrine dosage or wrong administration route, but no report of SCMP caused by accidental self-intravenous epinephrine administration. Epinephrine is commonly used for treatment of anaphylaxis. Typical treatment dosage for such a case is 0.3~0.5mg of 1:1000 epinephrine via intramuscular or via intravenous bolus of 0.1ml of 1:1000 solution in 10ml of normal saline over 5 to 10 minute period. Our patient injected ten times the recommended medication dosage. It is believed that catecholamine excess caused cardiotoxicity that eventually led to SCMP. Improper dosage of epinephrine can even lead to death. Therefore, strict pharmaceutical management is necessary for prevention of wrongful medication abuse by medical personnel.

#23041 : A novel approach to define the risk of intracranial lesions after a minor head trauma**Authors:**

Antonio Bonora (1), Gianni Turcato (2), Alice Dilda (3), Chiara Bellesini (4), Massimo Zannoni (2), Antonio Maccagnani (2)

1. Emergency and Intensive Care Department, University of Verona, VERONA, Italy
2. Emergency and Intensive Care Department, University of Verona, Verona, Italy
3. Postgraduate School of Emergency Medicine, University of Verona, Verona/Veneto, Italy
4. Postgraduate School of Emergency Medicine, University of Verona, Verona, Italy

Keywords: Minor head trauma Intracranial lesions Risk scores Nomogram

Abstract :

Background: The management in acute setting of patients with minor head trauma (MHT) still remains a matter of debate. The current guidelines and decision rules do not consider all the commonly known risk factors for post-traumatic sequences in a homogeneous and comprehensive manner. So they do not provide physician with concordant indications for CT scan, mainly in low-risk patients

Aim: The aim of our study was firstly to evaluate in a multivariate model each risk factor as predictor for the appointed outcome (CT positive or need for neurosurgery). Then these factors was used to create two predictive tools, a risk score and a nomogram, able to provide every single patient with MHT with an individual risk level for positive outcome.

Patients and methods: We prospectively evaluated all the patients observed for MHT from June 2016 to December 2017 and submitted to Ct scan in the Emergency Department of the University Hospital of Verona (Italy). The study population was divided in a creation (June 2016 to June 2017) and a validation dataset (July 2017 to December 2017). All risk factor proved to be significantly associated with outcome in univariate and multivariate analysis, at significance level $p < 0.05$, were included in the final model to create a risk score. This score was further validated in an independent dataset by means of discrimination and calibration. The nomogram was developed from creation dataset using a multivariate logistic model and then validated as well as risk score.

Results: We enrolled 3479 consecutive patients (1983 males, 1496 females; mean age 64 years), forming the creation (2353 pts) and the validation dataset (1126 pts). An intracranial bleeding (outcome CT+) was detected in 316 patients (8.5%), but only 28 of them (0.7%) needed for neurosurgical intervention or intensive care (outcome NS+). The eleven risk factors confirmed to be significantly related to outcome in the statistical analysis were included in the final model and a defined score, ranging from 1 to 4, was assigned to each factor. The total score ranged from 0 (no risk) to 26. In the ROC curve of risk score AUC was 0.809 ($p < 0.05$), thus reaching a very high accuracy level. We reported a positive CT in all patients with score > 15 and in 82% with score > 12 (specificity 0.99, PPV 0.82). Instead, the 99.2% of patients with score < 2 and all those completely risk free (6.3%) had a negative CT (sensitivity 1.0, PPV 1.0). Also the concordance index of nomogram appeared to be very high (AUC 0.802). Out of the 17 patients with probability $> 0.8\%$, most of them (76.5%) were reported with an intracranial lesion (specificity 0.99, PPV 0.76). A probability of 0.1% was associated with a specificity of 83.2%, while in case of probability $< 0.2\%$ (87.9% of pts) specificity rate increased to 92.4%.

Conclusions: Our combined model allows to arrange every patient with MHT in an individual level of risk to develop intracranial lesions and represent an easy tool to support emergency physicians in better managing these patients.

#23044 : Impact of door-to-implantation time of venoarterial extracorporeal membrane oxygenation for out-of-hospital refractory cardiac arrest patients secondary to cardiovascular causes: A single-center, retrospective, observational study

Authors:

Hiromi Muranishi (1), Ryosuke Zushi (1), Yoshiki Yagi (1), Shunya Kawasaki (1), Suguru Tanaka (1), Makiko Fukuda (2), Hitoshi Kobata (3)

1. Department of Cardiology, Mishima Emergency Critical Care Center, Osaka-city, Japan
2. Department of Anesthesiology, Mishima Emergency Critical Care Center, Osaka-city, Japan
3. Department of Neurosurgery, Mishima Emergency Critical Care Center, Osaka-city, Japan

Keywords: out-of-hospital cardiac arrest, extracorporeal cardiopulmonary resuscitation, door-to-implantation time

Abstract :

Background: Door-to-balloon time in patients with ST-elevation myocardial infarction is reported to be an independent predictor of the prognostic implication and was suggested to be included in current guidelines. However, the effect of door-to-implantation time (DTIT) of venoarterial extracorporeal membrane oxygenation (VA-ECMO) on patients with out-of-hospital cardiac arrest (OHCA) is unclear.

Purpose: This single-center, retrospective, observational study aimed to evaluate the effect of DTIT of VA-ECMO for mortality or neurological outcome of extracorporeal cardiopulmonary resuscitation (ECPR) in patients with cardiogenic OHCA.

Method & Result: This single-center, retrospective, observational study was conducted from January 2008 to April 2019. The primary endpoint was 1-month overall survival measured after ECMO initiation. Moreover, the secondary endpoint was 1-month survival with favorable neurological functions defined as having a cerebral performance category score of 1 or 2. A total of 3082 patients with OHCA were brought to our institution and 84 received ECPR. Of these, 51 consecutive adult patients with cardiogenic OHCA without sustained return of spontaneous circulation during transport were included in this analysis. Approximately 18 patients (18/51, 35.3%) survived after 1 month and were discharged. Among the survivors, 15 (15/18, 83.3%) were discharged with a favorable neurological outcome. The baseline characteristics between the survivors and non-survivors were not significantly different, except for the initial shockable rhythm [18/18 (100%) versus 28/33 (84.9%), $P = 0.03$]. There were no statistically significant differences between the median time from collapse to hospital arrival [31.0 min (IQR 25.0–31.0) versus 29.0 min (IQR 25.0–39.5), $P = 0.53$] and from call to hospital arrival [28.0 min (IQR 22.0–32.5) versus 27.0 min (IQR 23.3–34.5), $P = 0.56$]. The median DTIT of VA-ECMO was significantly shorter in survivors [13.0 min (IQR 11.5–18.3) versus 21.0 minutes (IQR 15.5–32.0), $P = 0.01$]. One-month overall survival rate and survival rate with a favorable neurological outcome were significantly higher in the group with a DTIT ≤ 20 min (31 patients) than that with a DTIT > 20 minutes (20 patients), (11 patients [50.0%] versus 4 patients [19.0%], $P < 0.01$ and 11 patients [46.0%] versus 4 patients [14.0%], $P = 0.01$, respectively). Using the Cox proportional hazards analysis, DTIT ≤ 20 minutes and bystander-witnessed significantly affected the overall survival rate at 1 month [adjusted hazard ratio (HR), 0.44; 95% confidence interval (CI), 0.20–0.95; and $P = 0.03$ and adjusted HR, 0.31; 95% CI, 0.13–0.74; and $P < 0.01$, respectively]. Regarding survival rate with a favorable neurological outcome, the result was relatively similar [adjusted HR, 0.46; 95% CI, 0.22–0.96; and $P = 0.04$ and adjusted HR, 0.37; 95% CI, 0.16–0.85; and $P = 0.02$, respectively].

Conclusion: Bystander-witnessed, bystander CPR and initial shockable rhythm are considered as favorable predictors of adult ECPR. However, there is still limited information about DTIT of VA ECMO in the previous studies. This study revealed that the DTIT of VA-ECMO is significantly associated with the 1-month mortality and neurological prognosis of patients with cardiogenic OHCA. However, further studies will be required to confirm these findings.

Trial Registration / Funding Information (only) :

No appropriate register / This study did not receive any specific funding.

#23045 : Platelet Protein NAP-2 – a Promising Biomarker in Differentiating Early Viral versus Bacterial Infection in Pediatric Emergency**Authors:**

Aiste Pociute (1), Goda Laucaityte (1), Algirdas Dagys (2), Lina Jankauskaite (3)

1. pediatrics, Lithuanian University of Health Sciences, Kaunas, Lithuania
2. pediatric intensive care, Lithuanian University of Health Sciences, Kaunas, Lithuania
3. Dr., LUHS, Kaunas, Lithuania

Keywords: NAP-2, biomarker, sepsis, child, emergency

Abstract :

Background: In the early stage of infection, clinical signs and blood biomarkers (CRP, Complete Blood Count (CBC) etc.) are not always reliable to differentiate viral, bacterial infection and SBI. Platelets (PLT) play a significant role in early pathogen recognition. Our previous research revealed PLT to be significant in early viral vs bacterial differential diagnosis. We hypothesized that PF4 and NAP-2, platelet-specific proteins, could discriminate early viral and bacterial cause of infection.

Methods: We performed a prospective single-center cohort study at the Pediatric Emergency Department (PED) of Lithuanian University of Health Sciences (Kaunas, Lithuania). We included children who arrived to PED early (

Results: 68 children were included in the study with the median age of 21 [10–31] mo. 42 had viral, 10 presented with a bacterial infection, 16 were diagnosed with SBI. In 4 children, sepsis was confirmed. A significant difference between all groups was observed in CRP, leukocyte and neutrophil counts (data not shown). No difference was found in PLT, P-LCR, PDW, MPV. PF4 had a tendency to be lower in sepsis (31.81 ± 5.54 vs 35.32 ± 4.72 pg/ml, $p=0.08$). NAP-2 was increased in the SBI group compared to bacterial and viral ($p=0.04$). NAP-2 elevation was observed in sepsis compared to viral, bacterial and other SBI (100.4 ± 5.82 vs 83 ± 10.53 vs 87.56 ± 9.45 vs 86.73 ± 10.76 pg/ml respectively, $p=0.03$). NAP-2 cut off value of <95.46 pg/ml could identify sepsis with a sensitivity of 83.22% and specificity of 75% (AUC 0.9148).

Conclusion: Our data suggest that NAP-2 is a promising biomarker in the early differential between sepsis, SBI and other causes of infection. However, more studies are needed.

#23046 : Coughing induced rectus abdominis muscle ruptured: a case reported.**Authors:**

Wei-Lun Chen (1), Tzu-Yao Hung (1)

1. Emergency Department, Taipei City Hospital, Zhong-Xing branch, Taipei, Taiwan, China

Keywords: rectus abdominis muscle, hematoma, cough

CT scans

Patient images are involved and I have adequate permission to use them

Abstract :**Background:**

Rectus sheath hematoma is a rare clinical condition. And severe cough induced hematoma in muscle is much more uncommon. Coughing is a reflex to protect our airway and clean those inhaled irritants or pathogens. When the cough reflex is triggered, the superior laryngeal nerve and vagus nerve (CN X) transmit the afferent impulse back to the medulla of brain. The efferent pathways contain many different nerves and muscles. The mechanism of cough is to create a high intra-thoracic pressure and release air through the airway in a very short time. Rectus abdominis muscle also contracts while coughing and it may cause disruption of epigastric artery and hematoma by a vigorous or violent cough.

Case scenario:

A 51 year-old female had a medical history of Caesarean section while in pregnancy, chronic bronchitis and cough. The patient was sent to our emergency department because of acute lower abdominal pain after a violent cough since 8 hours ago. The pain was described as continuous dull pain and sometimes with sharp pain sensation while moving or changing position. Besides, the patient kept feeling tenesmus and frequent urination. The vital signs were stable and consciousness was alert. Physical examination revealed distension, soft but tenderness over lower abdomen. No rebound tenderness or muscle guarding were noted.

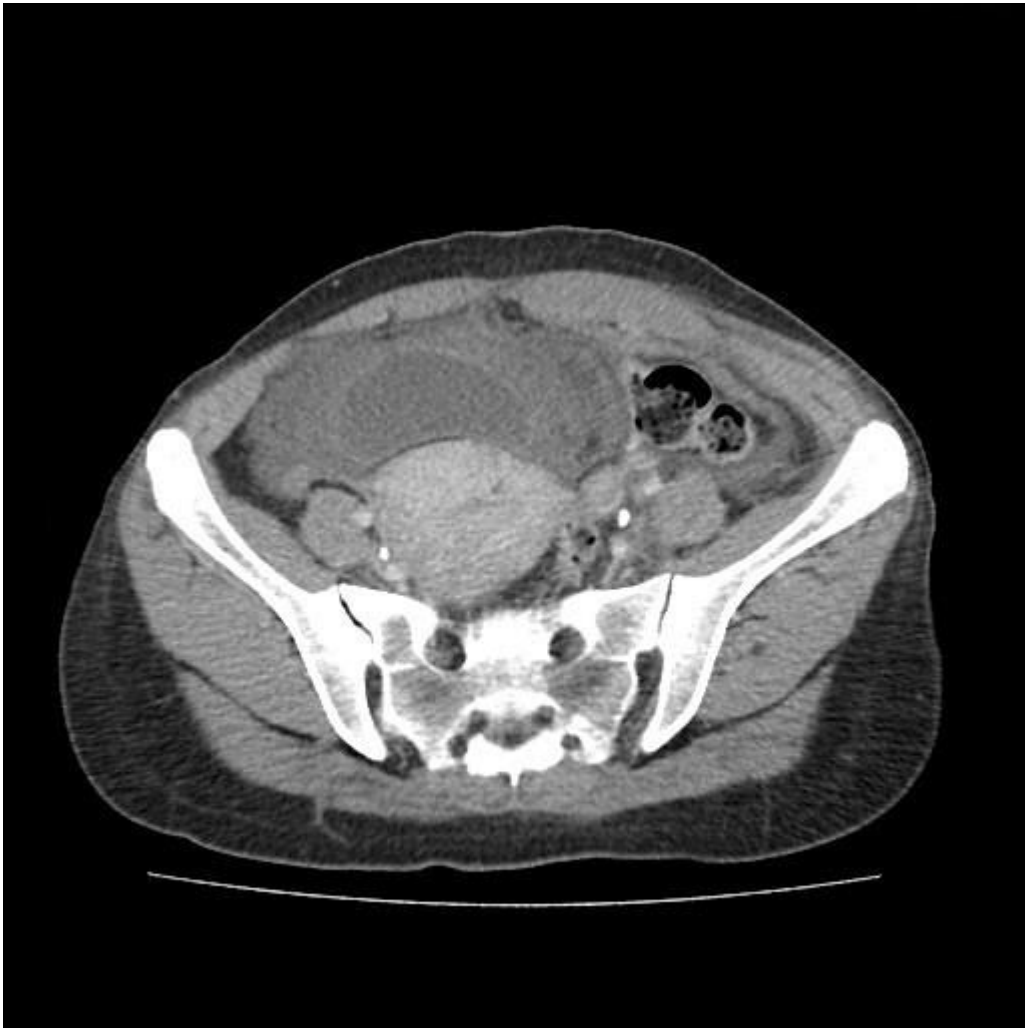
The medical team decided to perform a Point-Of-Care Ultrasound (POCUS) and found a 7-centimeter hetero-echoic hematoma which was connected to the rectus abdominis muscle. According to the statement with the patient felt pain after coughing and from the findings in ultrasound, the medical team suspected a ruptured muscle damaging the vessels.

Under the impression of a ruptured rectus muscle, the subsequent abdominal computed tomography (CT) was also performed and revealed the ruptured rectus muscle and hematoma formation. This 7x7cm hematoma was defined as type III because it was large and extended to the prevesical space of Retzius. Patient's hemodynamic was stable and then sent to ward for further treatment.

Conclusion & perspectives :

Abdominal pain is a common chief complain from patients. Lesions on the abdominal wall are easy to be missed. Rectus muscle or sheath injury can also affect the epigastric artery and most of severe cases occur in lower abdominal because there is no posterior sheath below arcuate line which is unable to tamponade the bleeding from inferior epigastric artery. The major cause is trauma which directly damages the muscle. Moreover, rectus muscle injury might impose a higher risk for some people such as female sex, advanced age, because they might have lesser muscle mass or over stretching the abdominal muscle due to pregnancy which makes it fragile, and others under anticoagulant or antiplatelet treatment.

In summary, this is a case of ruptured rectus abdominis muscle. Sonography is a good tool to early detect the lesion. The lesion on the abdominal wall should always be considered. Therefore, this can be a reminder to keep clinicians alert that there might be some other problems that are being overlooked.



#23047 : Safety of Preprocedural Sedation with Midazolam: a Clinical Practice from a Lithuanian Pediatric Emergency Department**Authors:**

Albors Daemi (1), Goda-Camille Mickeviciute (1), Ignas Sutkevicius (2), Algirdas Dagys (3), Milda Seskute (1), Lina Jankauskaite (4)

1. pediatrics, Lithuanian University of Health Sciences, Kaunas, Lithuania
2. Management , ISM University of Management and Economics, Kaunas, Lithuania
3. pediatric intensive care, Lithuanian University of Health Sciences, Kaunas, Lithuania
4. Dr., LUHS, Kaunas, Lithuania

Keywords: preprocedural sedation; Midazolam; pediatric; side effects

Abstract :

Background: Midazolam is one of the most commonly used sedative agents in procedural sedation. Yet, it is a very widely discussed topic in pediatrics and controversies about its usage persists. This study was conducted to determine the safety and efficacy of midazolam as well as the frequency, occurrence, and severity of adverse drug reactions.

Methods: a pilot observational study was conducted in the Hospital of Lithuanian University of Health Sciences pediatric emergency department (PED). We included children presenting to PED who required preprocedural sedation. The primary endpoint was to evaluate the occurrence of midazolam associated side effects. We used descriptive statistical methods. OR and Rr were used for dichotomous variables. CI of 95% was calculated. P-value <0.05 was considered as statistically significant.

Results: We included 31 children in this study (mean age – 4.5 ± 3.6 years). Minor side effects were recorded in 21 (67.7%) of the cases. Severe side effects were not recorded. In 25% paradoxical reactions were observed. 85% of all side effects were recorded with the dosage of <0.3mg/kg. Correlation between the occurrence of side effects and type of procedure (laceration repair) was found (RR:2.34, CI-95% 1.3-4.57; $p=0.0057$). A lower dosage (<0.26mg/kg) was associated with either diminished heart rate, blood pressure, respiratory rate or oxygen saturation. A higher chance for side effects was observed with oral as compared to intranasal application.

Conclusions: The Midazolam administration route, as well as the dosage, has to be carefully evaluated beforehand. It is important to follow-up the patient after the procedure, since we detected minor adverse reactions in most patients that could have been undetected otherwise.

#23048 : DIFFERENT WOUND MANAGEMENT TECHNIQUES INFLUENCE FOR CHILDREN AND PARENTS EMOTIONAL STATE AND LEVEL OF PAIN BEFORE AND AFTER PROCEDURE

Authors:

Lina Simonyte (1), Lina Matukynaite (1), Algirdas Dagys (2), Lina Jankauskaite (3)

1. pediatrics, Lithuanian University of Health Sciences, Kaunas, Lithuania
2. pediatric intensive care, Lithuanian University of Health Sciences, Kaunas, Lithuania
3. Dr., LUHS, Kaunas, Lithuania

Keywords: Pediatric; Wound management; Pain; Emotional state

Abstract :

Objectives. Lacerations are one of the most common reasons why parents bring their children into the pediatric emergency department (PED). Many physicians use old but reliable wound closing practices (i.e. suturing) and avoid new non-invasive methods (i.e. tissue adhesive, Steri-strips) which can be less painful and stressful for children and their parents. Our aim was to compare the emotional state (fear/anxiety) of children and parents, the level of pain before and after the procedure, using different wound management techniques.

Materials and methods. parents who accompany their injured children to University Hospital Kaunas Klinikos PED filled a 2-part questionnaire before and after the procedure (laceration repair). Pain and emotional state (fear/anxiety) were evaluated by VAS-10 (visual analogue scale; 1 – no impact, 10 – bad impact).

Results. 160 questionnaires were collected. Only 101 were further analyzed. The average age of children was 6.81 (min – 11 mo, max – 16 years). Suturing was used more frequently for older children. Non-invasive methods were prioritized for younger ones. Parents noted that a child's pain decreased after all procedures ($p < 0.05$). Less pain was indicated during laceration repair with Steri-strip (VAS before -4.19, during -2.11, after -1.08). A statistically significant pain decrease was seen after suturing and Steri-strip, but fear and anxiety were way higher in a suturing group before the procedure ($p < 0.004$) comparing with tissue adhesives ($p = 0.005$) or Steri-strip ($p = 0.03$). Parents indicated that they feared more if their child received suturing compared to the Steri-strip method ($p < 0.05$). We did not notice a difference in the level of anxiety between mothers and fathers ($p < 0.05$).

Conclusion. Children and parents experienced less fear and anxiety with non-invasive wound closing methods which are less painful for pediatric patients.

#23050 : Clinical features of deceased adult inpatients with COVID-19 outside of Wuhan, China

Authors:

Ting Wang (1), He Yu (2), Huan Yang (2), Rong Yao (2), Zongan Liang (2)

1. , , Chengdu, China

2. , -, Chengdu, China

Keywords: COVID-19, clinical feature

Abstract :**Background:**

The reported mortality from COVID-19 in Wuhan reached 4–5%, which is inconsistent with that described outside of Wuhan. In order to recognize patients with high risk elsewhere, we describe the clinical features of deceased patients in Sichuan province, China.

Methods:

We conducted a retrospective study till March 12, 2020. Patients with COVID-19 across cities in Sichuan province were screened and only 3 patients died from COVID-19 were included. Severe or critical adult inpatients who had been discharged from the same hospital, the Public Health Clinical Center of Chengdu, were also studied. We collected the clinical, laboratory, treatment, and outcome data from electronic medical records. Differences between non-survivors and survivors were compared by Mann–Whitney *U* test.

Results:

Patient 1 was a 73-year-old man who had a history of chronic kidney disease, hypertension, and coronary heart disease. Patient 2 was a 64-year-old woman who had a history of chronic kidney disease, diabetes, scleroderma, and arrhythmia. Patient 3 was a 80-year-old woman who had a history of hypertension and coronary heart disease. There were significant differences in hemoglobin ($P=0.025$), blood creatinine ($P=0.025$), and high-sensitivity cardiac troponin T ($P=0.041$) between the death group and discharge group. Significantly decreased counts of CD8 cells ($P=0.046$) was detected in death group, which implies that T cells especially CD8 cells might be a critical factor associated with mortality.

Discussion & Conclusions:

Anemia, higher levels of blood creatinine and high-sensitivity cardiac troponin T, and reduced CD8 cells were detected in deceased patients with COVID-19 in Sichuan, China. Whether patients with COVID-19 might benefit from more active monitoring and intervention against CD8 cell needs further studies.

Trial Registration / Funding Information (only) :

The study is funded by the Sichuan Science and Technology Project (2020YFS0005 and 2020YFS0009).

#23051 : I want to die with many pills

Authors:

JUAN ORTEGA PÉREZ (1), MERITXELL VIDAL BORRÀS (2), RAFAEL EMILIO HERNÁNDEZ SILVA (1), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Attempted suicide, Consciousness disorders, Ketosis.

Abstract :

CLINICAL HISTORY

49-year-old female patient who was found at home without response to stimuli. According to the daughter who lives with her, while waiting for the arrival of the ambulance, she found the blister packs of possible pills that the patient had taken: 29 grams of paracetamol, 150 mg of diazepam, 13 grams of naproxen, 2.2 grams of codeine and ethanol (0.5 liter of wine) with suicidal ideation.

In its first evaluation, by ambulance, it presented a 3-point GCS, miotic pupils and 70% oxygen saturation. 3 ampoules of naloxone and 1.5 ampoules of flumazenil were administered, with partial recovery of the level of consciousness. He is transferred to the hospital, urgent tests were extracted. Furthermore, they began treatment with acetylcysteine and the patient was admitted in critical care department. In the complementary tests, carried out after 3 hours of consumption, they saw high determinations of acetaminophen (108 mcg / mL), naproxen (101 μ g / mL) and ethanol (0.84 g / dL) were observed with metabolic acidosis with high gap anion; the rest were normal.

In critical care department, it is hemodynamically unstable, which requires norepinephrine and fluid replacement. About neurological state, she presented 7-points of GCS (O1, V2, M4) with isochoric and normoreactive pupils and without neurological focalities. Infusion of naloxone and flumazenil was administered with progressive improvement of the neurological state, reaching GCS of 13 points in the first 24 hours after admission.

At 36 hours he presented a good clinical evolution and after commenting on the case with OPsychiatry, he was discharged from our hospital.

DISCUSSION

In this case, there are two clinical data to consider: metabolic acidosis with a high anion gap and a low level of consciousness.

Lactic metabolic acidosis may be due to both naproxen and acetaminophen. In the case of naproxen, it is due to the accumulation of the drug itself and its acid metabolites derived from propionic acid, causing an increase in the anion gap. Lactate elevation is moderate and probably secondary to hypoxia. Acetaminophen can also generate it but in cases of massive poisoning.

The low level of consciousness is largely due to diazepam. Diazepam facilitates the inhibitory action of the neurotransmitter GABA that acts by depressing nerve conduction in the central nervous system. However, naproxen, through metabolic acidosis, ethanol, by increasing gabaergic inhibition and codeine, through opioid receptors, could also contribute to low consciousness; although with the doses he took it would not justify a GCS of 3 points. Furthermore, codeine would be responsible for miotic pupils in its initial evaluation.

CONCLUSIONS

In multiple suicidal drug poisoning, in unconscious patients, parallel to the support measures, it is important to accurately identify (if possible quantitatively) what the patient has actually taken, in order to adequately treat their potential toxicity, thus reducing possible complications that may develop.

We, as emergency physicians, have a very important job in these types of patients

#23054 : The Status of laboratory test requests in three university hospitals

Authors:

Maryam Bahreini (1), Soheil Rafiee (2), Fatemeh Rasooli (3), Atefeh Abdollahi (3)

1. , Associate Professor of Emergency Medicine, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

2. , CDC-Deputy of Health, Golestan University of Medical Sciences, Tehran, Islamic Republic of Iran

3. , Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

Keywords: Diagnostic Test, Laboratory, Hospital Admission Test, Utilization

Abstract :

Background. Laboratory requests can be definitely justified and trimmed to what patients necessarily need. Reducing unnecessary laboratory requests can improve patient safety and patient and provider satisfaction.

Methods. In this study, the current status of emergency department (ED)s of 3 university multidisciplinary hospitals are assessed based on the 10 most expensive and most requested laboratory tests categorized by the ordering physician and the patient chief complaint in a 6 months period. These hospitals had annual visits to the EDs between 20000 – 72000 patients.

Results. The most requested tests were as follows: complete blood count, biochemistry profile including Sodium, potassium, urea, and creatinine. Moreover, the most expensive tests were coagulation profile, cardiac troponin, C-reactive protein, erythrocyte sedimentation rate, liver enzymes, alkaline phosphatase, and blood gas corresponding the frequency of requests.

Among the services other than emergency medicine requesting laboratory work in the ED, internal medicine, neurology and surgery had requested more labs with 44.0, 24.4 and 20.8% of all specialties, respectively.

Moreover, the most frequent laboratory requests belonged to patients complaining of abdominal pain, chest pain and penetrating or blunt traumatic injuries.

Conclusion. It should be considered to rationally request the most frequent laboratory tests as many of them can be obviated by physicians and do not change the diagnosis, treatment, prognosis and disposition.

Trial Registration / Funding Information (only) :

This research project was supported by the deputy of treatment of the Tehran University of Medical Sciences for data recruitment.

Authors:

Vitória Cadete (1), Tiago Amaral (2), João João Mendes (3)

1. , medical student at Faculdade de Medicina da Universidade de Lisboa, Lisbon, Portugal

2. Emergency Department, CHU Central Lisbon, Lisbon, Portugal

3. Intensive Care Unit , Hospital Professor Doutor Fernando Fonseca, Lisbon, Portugal

Keywords: MEES, VMER, NURSE, PHYSICIAN, MOBILE MEDICAL TEAM, RAPID RESPONSE CAR, Emergency, Prehospital Care, Portugal

Abstract :**Background:**

The Emergency and Resuscitation Medical Vehicle (VMER) is a Portuguese prehospital intervention vehicle, that provides specialized medical care in emergent/ urgent situations. Our study aims to determine, for the first time in Portugal, the variation of physiological status, in patients treated in prehospital conditions and accompanied by the VMER to Hospital de São José (HSJ), as well as evaluate the impact of the therapeutic interventions on the variation.

Methods:

This is a retrospective study. Between June and December 2018, 318 patients were assisted by VMER and transported to HSJ. From these 130 were excluded, 5 due to death before arrival and 125 due to incomplete records, leaving 188 patients (n=188), 80 men (42,6%) and 108 women (57,4%). The mean age was 68 years.

Patients were divided into two groups: Trauma and Medical Emergency, which was subdivided into four subgroups: Altered State Consciousness (ASC), Dyspnoea, Chest Pain and Others. The following interventions could be performed by the VMER team: Airway Desobstruction/ Aspiration, Oxygen, Ventilation, Tracheal Intubation, Peripheral Venous Catheter, External Cardiac Compression, Defibrillation, Nasogastric Intubation, Immobilization, Fluids/ Medication, others.

The benefits from the prehospital approach can be quantified by the variation of the Mainz Emergency Assessment Score (Δ MEES), evaluating the patient's status through 7 parameters: Glasgow Coma Scale, heart rate, respiration rate, electrocardiogram, systolic blood pressure, arterial oxygen saturation and pain. Pain isn't assessed by VMER, pointing 0 in the score. The statistical analysis was performed, using *Statistical Package for the Social Sciences* (SPSS) to evaluate differences of Δ MEES between groups and subgroups and the impact of the interventions on Δ MEES, with a significance level (Sig) of 5%.

Results:

72 patients improved (38,3%), 93 remain unchanged (49,5%) and 23 deteriorated under care (12,2%), with a mean Δ MEES of 1,22. Initial MEES of 16 or under lead to an improvement on the patient status, between 17 and 23 it remains unchanged, whereas patients with an initial MEES of 24 got worst. However, these results lack statistical support.

ME group had a larger Δ MEES when compared to Trauma group (1,40 vs 0,36; p-value 0,009). Between subgroups of ME, Δ MEES was not significantly different. Airway Desobstruction performed in the subgroup Others improved Δ MEES (p-value 0,004). All the other interventions did not improve Δ MEES in significant way.

Discussion & Conclusions:

Only 12,2% of patients deteriorated under care, which shows a positive benefit of VMER, with 38,3% of patients' status improving and 49,5% unchanging. Nevertheless, this only represents the reality of HSJ for a period of 6 months and therefore more studies should be done in Portugal.

In trauma scenarios, it's still on debate whether it's better "*scoop and run*" or to "*stay and play*". In our study, trauma patients did not improve as much as the ME group, showing less benefit from VMER interventions.

Airway Desobstruction performed in the subgroup Others improved Δ MEES (p-value 0,004). All the other interventions did not improve Δ MEES in significant way. The impact of interventions and when patients benefit from them should be further investigated.

#23056 : Clinical utility of procalcitonin in febrile infants younger than 3-months of age visiting a pediatric emergency room: A retrospective single center study

Authors:

junsung park (1)

1. , , seoul, Korea, Republic of

Keywords: Infant, Neonate, Procalcitonin, Sepsis

Abstract :**Background**

Neonates and infants under 3 months of age are vulnerable to bacterial infections, and most of them visit the hospital via the pediatric emergency room. Extensive testing and immediate treatment in the emergency room is necessary if they present with fever. To reduce unnecessary admission and prevent sepsis, it is necessary to identify biomarkers that can be used to recognize bacterial infection. Recent studies have reported procalcitonin (PCT) to be a highly sensitive biomarker of sepsis in both adults and children. In this study, we verified the utility of PCT as a biomarker for identifying bacterial infections and for determining the disposition of febrile infants below 3-months of age in a pediatric emergency room setting.

Methods

We retrospectively review medical records of patients younger than 3 months of age who presented with fever at the Seoul Asan Medical Center pediatric emergency room between November 2017 to June 2018. Routine evaluations for rule out the sepsis were history taking, physical exam, vital sign, complete blood count (CBC), electrolyte, chemistry and C-reactive protein (CRP), x-ray. Including the above routine tests, PCT sampling, molecular biologic tests, and cerebrospinal fluid (CSF) studies were performed as needed. Patients were categorized into either any bacterial infection group or non-bacterial infection group. The mean concentration of PCT level in any-bacterial infection group and non-bacterial infection group was compared.

Results

A total 150 patients were analyzed. 24 patients have positive culture in any specimen and the others were negative in all specimen. Among 24 patients of any-bacterial infection group, 24 patients have urinary tract infection, 1 patient has bacterial meningitis, and none showed blood stream infection. The mean concentration of PCT level was higher in the any-bacterial infection

group than the non-bacterial infection group (3.01 ng/mL vs. 0.30 ng/mL, $p < 0.001$). Using a cutoff value of 0.5ng/mL for PCT and 1.0mg/dL for CRP sensitivity and specificity of PCT were 41.67% and 91.25% respectively, which is not inferior to those of CRP (62.5% and 91.27%, respectively). The AUROC of PCT was 0.731 (95% CI, 0.574-0.887). Biomarkers showing correlations with PCT levels included CRP, body temperature, diastolic blood pressure, neutrophil proportion, absolute neutrophil count (ANC) ($p < 0.001$, $p = 0.017$, $p = 0.046$, $p = 0.003$, $p = 0.007$, respectively).

Conclusion

PCT is a useful biomarker for identifying bacterial infection in infants under 3 months of age with acute onset fever in the pediatric emergency room.

#23057 : Sharp foreign bodies retained in the left colon

Authors:

Hossein Zabihi Mahmoudabadi (1), Maryam Bahreini (2), Ehsan Rahimpour (1), Pejman Farshidmehr (3), Khosrow Najjari (4)

1. , Assistant Professor of General Surgery, Tehran, Islamic Republic of Iran

2. , Associate Professor of Emergency Medicine, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

3. , Assistant Professor of Vascular Surgery, Tehran, Islamic Republic of Iran

4. Fellowship of bariatric and advanced laparoscopy, Assistant Professor of General Surgery, Tehran, Islamic Republic of Iran

Keywords: Descending Colon, Foreign Body Ingestion, Intestinal Perforation

Abstract :

Background. Patients with psychiatric disorders may ingest bizarre and sometimes sharp objects resulting in gastrointestinal tract perforation

Case Presentation. A 31– year old man presented to our hospital with left upper quadrant (LUQ) abdominal pain during the previous three months that was recently aggravated. He was a known case of psychosis. In physical exam, vital signs were within normal limits and he had tenderness in the LUQ. Abdominal X–ray and computed tomography revealed multiple sharp foreign bodies in the left colon. The patient underwent laparotomy during which objects were removed from the muscularis mucosa of the descending colon and interestingly, impinged with the swirling movements of the bowel avoiding significant free wall perforation and peritonitis during the last three months.

Conclusions. Sharp ingested objects can cause minimal symptoms necessitating a multidisciplinary approach to optimize removal and simultaneously treat underlying mental illness.

#23058 : Kounis Syndrome ; An Underdiagnosed Manifestation of Anaphylaxis**Authors:**

Paul Yugendra (1), Yvonne Goh Guat Keng (2)

1. , MOH Holdings Singapore, Singapore, Singapore

2. Emergency Medicine, SingHealth, Singapore, Singapore

Keywords: Kounis Syndrome, Anaphylaxis

Abstract :

Introduction:

Kounis syndrome (KS) is a hypersensitivity acute coronary syndrome. It is associated with conditions involving mast cell activation in the setting of allergic, hypersensitivity, anaphylactic and anaphylactoid reactions.

Case report:

A 56 year old gentleman with no cardiac risk factors presented to Emergency Department after turning unresponsive post bee-sting. He complained of giddiness after being stung by a swarm of bees and subsequently became unresponsive en-route to our hospital.

Upon initial presentation, he was peri-collapse and gasping. He was flushed with angioedema over the face, lips and tongue but had mottled peripheries. Weak peripheral pulse was present, tachycardia was seen on cardiac monitors but blood pressure was unrecordable. A silent chest was heard with poor inspiratory efforts.

Our initial impression was anaphylactic shock secondary to bee sting and he was treated accordingly with IM adrenaline, IV corticosteroids, IV H1 and H2 antihistamines. ST segment elevation were noted on cardiac monitors and urgent ECG performed showed inferior ST segment elevation.

Resuscitation and management of his airway took precedence and he was intubated expediently. Fluids and intravenous peripheral adrenaline was started in view of the low blood pressure.

With resolution of the tachycardia and restoring of blood pressure, patient's subsequent ECG showed resolution of ST segment elevation. Cardiology impression was that of KS, decision was to hold off cardiac catheterisation until patient was stable.

IV adrenaline infusion was weaned and patient was extubated on Day 2 of admission. Cardiac biomarkers were mildly raised (Troponin-T 42â169â176) and he was started on dual anti-platelet therapy.

Day 3 echocardiogram revealed a left ventricular ejection fraction of 55-60% with no RWMA. Day 4 CT coronary angiogram revealed minimal narrowing in LM/LAD, LM and LCX. RCA was patent. Calcium score 17. Patient was started on lifelong aspirin and discharged well on Day 4.

Discussion:

Nicholas Kounis, reported in 1991 the discovery of hypersensitivity-associated acute coronary syndrome. Allergens cause mast cell degranulation which results in release of inflammatory mediators. Histamine is one of the mediators with important cardiac actions. It can provoke coronary artery vasoconstriction, induce tissue factor expression and activate platelet causing thrombus formation.

There are three reported variants of this syndrome. Type 1 variant occurs in people with normal or nearly normal coronary arteries, allergic acute coronary syndrome is attributed to coronary vasospasm. Type 2 occurs in people with culprit but quiescent coronary artery disease, allergic reaction leads to coronary vasospasm and/or plaque erosion/rupture. Type 3 described coronary artery stent thrombosis secondary to allergic reaction. Retrospectively, our patient had a Type 1 variant of KS.

Conclusion:

Recent reports suggest that Kounis syndrome may not be a rare disease but underdiagnosed. A high index of suspicion is required for diagnosis. Therapeutic management is challenging because it needs to treat both cardiac and allergic symptoms simultaneously. Drugs treating the allergy may potentially aggravate cardiac function and vice versa. In our patient (Type 1 KS), treatment of allergic event alone abolished his cardiac symptoms and vasospasm and he did not suffer any longterm impairment of cardiac function.

#23059 : Learning effectiveness assessment between primary school student and adult in Basic life support education

Authors:

Mingfang Wang (1), CHIEN CHENGYU (2)

1. Emergency Department, Chang Gung Memorial Hospital, Linkou, Taipei City, Taiwan, China

2. Emergency Department, Ton Yen General Hospital, Taichung City, Taiwan, China

Keywords: education, elementary school, CPR, BLS

Abstract :**a. Background**

Out of hospital cardiac arrest (OHCA) remains big issue of critical care. It is well known that bystander cardiopulmonary resuscitation (CPR) with automated external defibrillator (AED) used did improve survival rate. Therefore, CPR education including Basic life support (BLS) and AED have been advocated. In previous study, it showed significant improvement of knowledge and willingness to perform CPR through adolescents after the course.

b. Aims

In previous study, CPR quality is associated with body mass index (BMI) in emergency medical technicians, thus, we suppose adolescents perform CPR and AED inferior to adult due to relatively low BMI of adolescents. Therefore, is current BLS course suitable for adolescent? This study aimed to assess the study effectiveness between adolescent and adult in same course of BLS.

c. Methods

Six-grade primary school students, located in northern Taiwan were selected with control group of school staffs. Both took a 90-minutes of BLS and AED course by doctor with BLS instructor qualification. This is a retrospective study. Primary outcomes are written test, CPR quality, and skill examination parameters, and secondary outcome comes with questionnaire of CPR willingness before and after the course.

d. Results

In written test, there is statically difference in pre-test score except AED item, but with no difference in post-test score. Surprisingly, no statistic difference in CPR quality was noted. In skill examination, check breath status has significant statistically difference (study group (71%) vs control group (86%) ($p=0.003$)). Besides, most people are willing to perform CPR/AED on a known person, but still hesitate to perform on a stranger after the course.

e. Conclusion/Discussion

In this study, there is no difference between adolescent and adults in BLS and AED performance after the course. However, further BLS course for primary school student need to focus more on checking breath status.

#23060 : Acute ischemic stroke thrombolysis in elderly patients

Authors:

mohamed heddi ahmed (1), hajer yaakoubi (1), salma ben said (1), lotfi boukadida (1), ahmed amin abri (1), houda ben salah (1), asma zorgati (2), riadh boukef (2)

1. urgences sahloul, CHU sahloul, sousse, Tunisia
2. urgence, CHU sahloul, sousse, Tunisia

Keywords: Acute ischemic stroke, thrombolysis, intracranial haemorrhage, death

Abstract :

Introduction: Cerebrovascular Accidents (CVA) is a severe, invalidating and increasingly frequent condition with the aging of the population. CVA represents a challenge in terms of public health, particularly in elderly patients. About 30% of Acute Ischemic Strokes (AIS) occur in patients over the age of 75. The prognosis is more severe in elderly patients when it comes to mortality and functional and cognitive sequela

Materials and Method: A retrospective single-centred study based on our CVA registry. We included all patients admitted to the emergency department with CVA and underwent thrombolysis. Our study population is divided into two groups based on age with a limit of 75 years. We noted the clinical, demographic and biological data of each patient. The statistical analysis was conducted with SPSS 18.

Results: Our study population included 80 patients of which 30 patients were over the age of 75 years. The majority of our patients were female with a sex ratio M/F of 0.77. The table below shows the evolution of NIHSS from H0 to H24 in the two groups

NHSS 0

NHSS 24 Hours

P

≥75 years

12 ± 6.9

9.39 ± 6

0.001

<75 years

8.8 ± 10

5.87 ± 4

0.02

Our results reveal that patients over the age of 75 year who underwent thrombolysis do not have a higher risk of intracranial haemorrhage or death as compared to those under the age of 75 years. We note that the functional outcomes at 3 months were less favourable than in patients under this age limit. That being said, this observation seems to be related to the worse prognosis of CVA in elderly patients and not to the ineffectiveness of the thrombolysis.

Conclusion: The age limit of 75 years alone should no longer be considered a contraindication to thrombolysis.

#23062 : The value of nurse-performed lung ultrasound in the diagnosis of cardiac failure in the emergency department**Authors:**

salma ben said (1), marwene kacemi (1), roua chouih (1), nada ilahi (1), lotfi boukadida (2), rym youssef (1), asma zorgati (2), riadh boukef (2)

1. urgences sahloul, CHU sahloul, sousse, Tunisia

2. urgence, CHU sahloul, sousse, Tunisia

Keywords: Nurse, Lung Ultrasound, Cardiac Failure, Emergency Department

Abstract :

Introduction: Lung ultrasound is a tool that is both simple and practical. It's one of the main cornerstones in the diagnosis of acute cardiac failure in the emergency department by calculating the pulmonary congestion score (PCS).

The aim of this study is to evaluate the performance of nurse-performed lung ultrasound in the differential diagnosis of acute dyspnea in the emergency department.

Method: This was a prospective single-centred study that included all patients admitted to the emergency department with acute dyspnea. Lung and cardiac ultrasound as well as the calculation of the pulmonary congestion score were conducted by a trained nurse. The final diagnosis of cardiac failure is based on the level of NT Pro-BNP, results of ultrasound; x-rays and expert's opinion. The data analysis was conducted using SPSS version 18

Results: 560 Cardiac and lung ultrasound have been conducted on patients admitted with acute dyspnea. The mean age of the population is 68 ± 13 years. The sex ratio M/F is 1.23/ The diagnosis of cardiac failure was established in 56% of the population. The area under the curve for the NT ProBNP; the gold standard for the diagnosis of cardiac failure is 0.878, as compared to that of Pulmonary Congestion Score calculated by the paramedical staff is 0.701.

Conclusion: Lung ultrasound conducted by a nurse shows a good reproducibility in the diagnosis of acute heart failure in the emergency department.

#23063 : Improvement of an emergency referral system in a low resource context through the implementation of a new triage protocol: a quasi-experimental study

Authors:

Andrea Conti (1), Lorenzo Lora Ronco (1), Daniela Sacchetto (1), Marta Caviglia (1), Francesco Barone-Adesi (1), Marcello Mazzotta (2), Helga Languana (2), De Meneghi Giovanna (3), Emanuela De Vivo (3), Giovanni Putoto (3), Filomena Atanasio (4), Priscila Filimone (5), Cizalia Figueira (4), Fino Massalambane Chalimba (4), Francesco Della Corte (1), Luca Ragazzoni (1)

1. CRIMEDIM - Research Center in Emergency and Disaster Medicine, Università del Piemonte Orientale, Novara, Italy
2. , CUAMM - Doctors With Africa, Beira, Mozambique
3. , CUAMM - Doctors With Africa, Padova, Italy
4. , SDSMAS - District Services of Health, Women and Social Affairs, Beira, Mozambique
5. , Sofala Province Health Services, Beira, Mozambique

Keywords: referral service,ems,emergency medical service,triage,developing countries,mozambique,humanitarian medicine,low-resource context,prehospital,training,ambulance service

Abstract :**Background**

To strengthen health services in the Beira district, Mozambique, after the Idai Cyclone, an ambulance emergency referral system was implemented by the Italian NGO CUAMM - Doctors with Africa. With an average of 800 patients transported each month from the peripheral primary care centers (CS) to Beira Central Hospital (HCB), the system worked at the full capacity. Initially, the selection of transported patients was based on the clinical experience. To improve the appropriateness of the referrals, CRIMEDIM - Research Center in Emergency and Disaster Medicine (Università del Piemonte Orientale, Novara, Italy) implemented the South African Triage Scale (SATS) in three of the 15 CS covered by this system. A two-days course focused on SATS was delivered to the local personnel and an operation manual was developed and made available.

This study aims to assess whether the implementation of SATS had a positive impact on the appropriate selection of critical patients who needed urgent transport and to assess the accuracy of the triage performed by the local personnel.

Methods

This quasi-experimental study is composed of two periods: a pre-implementation phase, from 08/10/2019 to 07/12/2019, where patients were assessed, selected, loaded in the ambulance and transferred without using the SATS; and a post-implementation phase, from 08/12/2019 to 08/02/2020, where patients were assessed, selected, loaded in the ambulance and transferred following principles and rules stated out in the SATS and in the referral protocol. The data of the transported patients was gathered from the referral charts. The measured outcomes were expected code (triage code retrospectively calculated by researchers using the information from the referral charts), triage accuracy (percentage of assigned codes matching with expected ones) and under and over-triage rates (assigned codes lower or higher than expected ones respectively).

Pearson's Chi-square Test was used to investigate if distribution of color codes sent to hospitals and time in which they have been sent were independent. A hypothesis test was used to look at the proportions between the single categories, to analyze in which of them the null hypothesis could be rejected.

Results

A total of 979 referral charts were collected. 209 records were excluded and 770 records were analyzed, 552 from the pre-implementation phase and 218 from the post-implementation phase. The number of transported red codes increased (+10,54%) and the number of green codes decreased (-12,71%), both with a statically significant difference. Accuracy was 30% for green codes, 29,3% for yellow, 20,2% for orange, 39,4% for red. The overall rate of accuracy, over and under-triage were 29,22%, 47,49% and 23,28% respectively.

Discussion & Conclusions

This study demonstrated that the introduction of SATS, in this low resource context, modified the pattern of transported patients. It showed an increase of red codes transported and a reduction of green codes. Although the accuracy of the triage performed by local professionals can be considered low, the implementation of this triage protocol significantly reduced the number of non-urgent transports. We recommend the inclusion of a triage protocol in the design of emergency referral systems for developing countries.

#23064 : Left without being seen: a quality indicator in the emergency department**Authors:**

Rafael Kneuts (1), Ives Hubloue (1), Inge Roggen (2)

1. Emergency, UZ Brussel, Jette, Belgium
2. Emergency, HUDERF, Brussel, Belgium

Keywords: LWBS, Left without being seen, Quality indicator

Abstract :

Background: Patients leaving the emergency department (ED) without being seen (LWBS) by a physician are a worldwide known phenomenon. These patients represent 0.36 to 15% of the total number of patients visiting the ED, depending on the region and the settings of the ED. We wanted to identify the prevalence and possible causes of this phenomenon in a large tertiary ED, with 75000 yearly visits.

Methods: A prospective study was conducted with patients of one large tertiary ED. Between 01/06/2018 and 30/11/2018, patients who had left the ED prematurely were contacted by phone, one week after their ED visit. A standardised questionnaire was used to conduct a phone survey. Additional information was acquired from the patient's medical record. Statistical analysis was performed using MedCalc® version 18.11.3 (MedCalc Software bvba, Mariakerke, Belgium). All data are presented as mean \pm standard deviation (SD) or as median (range), when not normally distributed. D'Agostino-Pearson K-squared test was used for assessing normality of data. Spearman's rho test was used to calculate rank correlation coefficients.

Results: 598 out of 30127 patients (1.98%) left the ED prematurely, of which 509 (85.1%) were contacted by phone and 259 (43.4%) agreed to participate. LWBS patients were significantly younger, and the degree of emergency was significantly lower compared to the general population.

The top 3 of the main reasons why people left the ED prematurely were the waiting time (74.9%), 13.1% suddenly felt better and 13.1% needed to be elsewhere. Of the LWBS patients, 40.1% are admitted between 6 pm and midnight, while only 31.7% of total ED visits take place in that timeframe.

Conclusion: In our ED, patients who LWBS are young adults with less severe diseases as reported in literature. The waiting times are the main reason why patients leave the ED prematurely. Strategies to reduce waiting times or to inform these patients about waiting times could be implemented to reduce LWBS.

Trial Registration / Funding Information (only) :

Trial Registration: No registration. Research conducted for educational purposes. **Funding:** This study did not receive any specific funding. **Ethical approval and informed consent:** The ethical committee of the UZ Brussels approved the study. The approval number is 143201836184. An informed consent was obtained orally.

Authors:

Hossein Zabihi Mahmoudabadi (1), Maryam Bahreini (2), Fatemeh Mohammadi (3), Fatemeh Rasooli (4)

1. , Assistant Professor of General Surgery, Tehran, Islamic Republic of Iran

2. , Associate Professor of Emergency Medicine, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

3. , Medical Student, Tehran, Islamic Republic of Iran

4. , Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

Keywords: Esophageal Perforation, Foreign body, Mental Disorder

Abstract :**Abstract**

Background. The majority of esophageal foreign bodies pass through the gastrointestinal tract without causing severe complications.

Case Presentation. A 45-year old man with schizophrenia swallowed razor blades and pieces of glass. In primary evaluation, chest X-ray showed right-sided pneumothorax, pneumomediastinum and the foreign bodies in the stomach (Fig 1). Thoracoabdominal computed tomography (CT) scan was performed in which gastrografin leak into the left pleural space was observed indicating esophageal perforation and the need for surgical intervention (Fig 2).

Therefore, the patient received intravenous piperacillin-tazobactam and vancomycin and was transferred to the operating room where right posterolateral thoracotomy was performed. The middle third of the esophagus in the anterior part had a laceration of 3–4 cm in length, pneumothorax, pneumomediastinum and an urgent need for surgery.

Conclusion. In some complicated cases, foreign bodies become problematic and require immediate surgical intervention. Management of asymptomatic patients depends on the demographic factors of patients as well as the site of entanglement in the gastrointestinal tract. The possible risk of foreign body ingestion should be considered in patients with mental disorders.

#23066 : Emotional Control of Emergency Nursing Staffs after Keen Election Competition with Sociodemographic Status Differences**Authors:**

Chia-Hsi Chen (1), Chia-Hsi Chen (2), Hsiu-Chun Chen (3), Mong-Ping Dai (4), Jui-Fang Huang (5)

1. Department of Emergency Medicine, St. Martin De Porres Hospital, Chia-Yi, Taiwan, China
2. Department of Emergency Medicine, St. Martin De Porres Hospital, Chia-Yi City, Taiwan, China
3. Department of Nursing, St. Martin de Porres Hospital, Chia-Yi City, Taiwan, China
4. Director, Department of Internal Medicine, St. Martin de Porres Hospital, Chiayi, Taiwan, China
5. Department of Education and Research, St. Martin De Porres Hospital, Chia-Yi City, Taiwan, China

Keywords: emotional control, emotion regulation questionnaire, nurse staff , sociodemographic status

Abstract :

Background: The emotional change and control of nursing staffs are usually discussed in nursing practice environments improvement. This study aimed to introduce this questionnaire to measure nurses' emotional control in different sociodemographic status

Methods: The research designation was cross-sectional analysis of nurse emotional survey for the staffs of emergency room and critical care unit in keen election November 2018. The emotion regulation questionnaire(ERQ) is used to display the difference in emotional change in individual sociodemographic status. Data collected from on duty nurses during the election day and the next day and test the preliminary tool's reliability. The items analysis, sociodemographic factors analysis, Pearson correlation coefficients and Cronbach's alpha were used for statistics analysis. The used static software is SPSS edition 23th.

Results:

The final scale comprised 10 items, divided two factors. The factors comprised Cognitive Reappraisal and Expressive Suppression. Data collected from 38 nurses. The Cronbach's α was 0.746 and the Pearson correlation coefficients in time consumption of on-duty and off-duty, emotional state of on-duty and one month later, party preference, age, academic background and seniority are -0.94, 0.15, 0.43, 0.15, -0.085, -0.145, -0.118 and 0.209. The p-value are 0.573, 0.369, 0.797, 0.368, 0.610, 0.385, 0.481, 0.207 that are not significant in statics.

Discussions and Conclusions:

About 17% of the hospitals in the Pennsylvania sample had favorable practice environments. A 10-item scale is used to measure respondents' tendency to regulate their emotions in two ways: (1) Cognitive Reappraisal and (2) Expressive Suppression. There are great variations in the study of nursing practice environments among the hospitals studies. In this study there are not good correlations between the different sociodemographic status including party preference, age, academic background and seniority. The emotional control of nursing staffs are not related with the time consumption of election news and emotional status. In former impression the service length and age growing up could be helpful in the ability to emotional control. In the present study there are no significant differences. The nursing supervisor should take different perspective in the management of nursing staffs about the emotional control.

Trial Registration / Funding Information (only) :

Trial Registration: This is one observation study under the survey of ClinicalTrials.gov Protocol Registration and Results System (PRS) **Funding:** This study did not receive any specific funding. **Ethical approval and informed consent:** The study was approved by the Institutional Review Board (IRB) at St. Martin De Porres Hospital in Taiwan (IRB No: 19B-003).

#23067 : Predictive factors of thrombolysis success in acute ischemic strokes in emergency departments**Authors:**

ahmed amin abri (1), marwene kacemi (1), hejer yaakoubi (2), oussema acheche (1), lotfi boukadida (2), rym youssef (1), asma zorgati (2), riadh boukef (2)

1. urgence, CHU sahloul, sousse, Tunisia
2. urgences sahloul, CHU sahloul, sousse, Tunisia

Keywords: Thrombolysis, Success, Acute Ischemic Stokes, Emergency, NIHSS score, mortality

Abstract :

Introduction: Cerebrovascular accident represent a major public health issue. It's the first cause of handicap, second cause of dementia and the third cause of mortality. The therapeutic management of an ischemic stroke is a challenge: Fibrinolysis in the 3 hours following the onset of the stroke provides a clinical improvement at 3 months. However, fibrinolysis is not always effective even if it's done within the timeframe. What are other intervening factors in the success or failure of fibrinolysis? The aim of this study is to determine the factors predicting the success of thrombolysis in acute ischemic strokes (AIS).

Materials and Method: A descriptive single-centred study based on the data of our CVA registry from January 2017 to December 2019, which included all patients admitted to the emergency department with an AIS who underwent thrombolysis. The overall success of the thrombolysis is defined as the NIHSS score at 24 hours being less that 50% of the initial NIHSS score. The relative success is defined as an improvement of NIHSS score at 24 hours without exceeding 50% of the initial NIHSS.

Results: We were able to conduct fibrinolytic treatment within the timeframe in 62 patients with a success in 18.1% of patients, a relative success was noted in 13.5% and a failure in 18.1% of patients. The failure of thrombolysis is most frequently observed in patients over 75 years old, patients with high glycemc level at admission and in patients with a high initial NIHSS score.

Conclusion: The predictive factors of the evolution of AIS include the initial severity, advanced age, hyperglycemia at admission and NLR.

#23068 : In the end, what matters most: An audit of end-of-life care decision-making in the chronically ill presenting to the emergency department

Authors:

En Lei Samuel Fong (1), Gayathri Devi Nadarajan (2), Sherman Wei Qiang Lian (2), Eng Hock Marcus Ong (2)

1. , , Singapore, Singapore

2. , nil, Singapore, Singapore

Keywords: Palliative, End-Of-Life care, Communication, Advanced Care Planning

Abstract :**Background**

Visits by patients with chronic diseases to the ED during their end-of-life period are distressing to patients and their loved ones. EOL care discussions are often omitted due to the fast-paced environment of the ED. The prevalence of EOL care discussions sets the baseline for future studies on patient-centred care but has never been studied locally.

Methods

A retrospective study was done on a 3-month period in a tertiary hospital ED. Patients with a documented diagnosis of a chronic disease and die within 72h from presentation to the ED were included. Outcomes of interest include proportion of patients with prior EOL care decisions documented and proportion with such discussions initiated in the ED. Nature of decisions documented was determined and categorised.

Results

Of the 87 deaths studied, 64.3% were males and the median age was 76. The median time from registration to death was 13h 26min.

Only 35.6% had discussions on EOL care decisions with the ED physician and 31.0% had such prior-made decisions. Only 2.30% had prior advanced care planning (ACP).

The majority of patients (90%) refused active resuscitation and consented only to symptomatic management. A minority indicated their preferred disposition or place of death (19%) and refusal of blood or radiological investigations (7%).

Discussion

The ACP is a useful but underutilised tool to facilitate such discussions. The majority of patients did not have documented prior EOL decisions, and efforts should be made to encourage such discussions early in primary care setting. This relieves the burden on loved ones and healthcare providers in the event of deterioration given the short duration from presentation to death.

ED staff should be trained to initiate such discussions if not documented. Special attention could be given to patients' preferred place of death and option to refuse certain investigations, as these preferences were omitted in discussions.

Trial Registration / Funding Information (only) :

nil

#23069 : Establishing a preclinical Sepsis-Algorithm – a prospective observational study**Authors:**

Susanne Betz (1), Carmen Schwitalla (1), Patrick Schwarz (2), Erich Wranze-Bielefeld (3), Jan Rinkleff (4), Andreas Jerrentrup (1), Lars Timmermann (5), Martin Sassen (1)

1. Department of Emergency Medicine, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Germany
2. Department of Internal Medicine, Respiratory and Critical Care Medicine, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Germany
3. Medical Director EMS, County Marburg-Biedenkopf, Marburg-Biedenkopf, Germany
4. Emergency Medical Service Mittelhessen, German Red Cross, Marburg, Germany
5. Department of Neurology, University Hospital Giessen and Marburg, Campus Marburg, Marburg, Germany

Keywords: Sepsis-Algorithm, q-SOFA-Score, preclinical antibiotics, preclinical blood cultures, emergency medical service

Abstract :**Background:**

Approximately 40% of septic patients reach the emergency department (ED) by emergency medical services (EMS). Sepsis appears more often than stroke or myocardial infarction in a preclinical setting, but is still often not diagnosed and therefore treated too late. Following the current guidelines, early antibiotics are essential for the outcome and should be administered within the first hour after diagnosing Sepsis. This study examines the handling of a preclinical Sepsis-Algorithm based on q-SOFA-Score. It has been established in a physician staffed EMS in the county of Marburg-Biedenkopf. According to this algorithm antibiotics should be given on scene and blood cultures should be taken in preclinical setting if the patient showed signs of septic shock.

Methods:

After approval by ethics committee of the University of Marburg – Department of medicine, under the file number ek_mr_15_07_2019_3_betz – data from protocols of EMS and ED, same as questionnaires completed by EMS staff, were prospectively collected and analysed. The data included and evaluated here comes from a period of two months (01.12.2019-31.01.2020). All patients who received antibiotics using the Sepsis-Algorithm were included, same as patients who reached the ED with a registration number that encodes the diagnosis (371=Sepsis and 374=septic shock), or patients who were diagnosed with the appropriate diagnosis in ED. All patients were over 18 years, medicated by EMS of the German Red Cross and admitted to a single university ED.

Results:

During the study period N=53 patients were enrolled. In N=26 (49%) cases q-SOFA-Score was positive.

N=8 (15%) were diagnosed preclinical and assigned to septic-number 371 and N=8 (15%) to septic shock with code 374. According to the septic shock code 374, in 100% q-SOFA-Score was

positive, in N=7 (88%) cases blood cultures were taken and N=6 (75%) antibiotics were given. Compared with code 371 in 68% q-SOFA-Score was positive, in N=3 (38%) cases blood cultures were taken and N=3 (38%) antibiotics were administered. In N=19 cases (36%) patients with respiratory problems were the most frequently admitted to the ED, N=14 (26%) of whom had the diagnosis bronchitis or pneumonia. N=12 (23%) were coded as “other internal” emergencies and N=6 (11%) were diagnosed as surgical or neurological emergencies.

N=21 (40%) patients were transferred to an intensive care unit, N=17 (32%) to a monitoring station and N=15 (28%) to a normal ward. Overall N=10 (19%) patients died in the hospital, of these patients N=8 (80%) had a positive q-SOFA-Score.

According to the questionnaire EMS employees feel quite secure when assessing septic patients and see a need for preclinical antibiotics. However, the emergency physician appears to feel more confident to administer antibiotics and taking blood cultures than paramedics.

Discussion:

Establishing a preclinical Sepsis-Algorithm seems to be useful but needs to be more present to EMS-personnel. Further studies are needed to assess the outcome between septic patients with preclinical diagnosed Sepsis and such with another briefing diagnose, same as to assess the benefit of an antibiotic therapy and the validity of collected blood cultures in a preclinical setting.

#23070 : Longing for peace: An audit on waiting times for admission and palliative care referral in end-of-life patients during their last hours at the emergency department**Authors:**

En Lei Samuel Fong (1), Sherman Wei Qiang Lian (2), Gayathri Devi Nadarajan (2), Eng Hock Marcus Ong (2)

1. , , Singapore, Singapore

2. , nil, Singapore, Singapore

Keywords: Palliative, End-Of-Life care, Quality

Abstract :**Background**

Emergency department (ED) visits by patients with chronic diseases during their end-of-life (EOL) period are distressing to patients and loved ones. Early ward admission and referral to palliative care could enhance patient comfort during their last hours. The waiting time for admission and referral in this population has never been studied locally. They are important indicators of patient care and are crucial for measuring the impact for future action plans to expedite these processes.

Aim

To study the quality of EOL care given to imminently dying patients presenting to the ED using waiting time for ward admission and palliative specialist referral as indicators.

Methods

A retrospective study was done on a 3-month period in a tertiary hospital ED. Patients who had a documented diagnosis of a chronic disease, were admitted into the ward and died within 72 hours of presentation to the ED were included. Outcomes of interest include waiting times for admission and palliative referral.

Results

Of the 58 patients studied, 69.0% were males and the median age was 75.5. The median waiting time for a bed was 1 h 51 min, while the median time from registration to death is 21 h 1.5 min.

Only 16 patients (27.6%) had a referral made to a palliative care specialist before death. Of all referrals made, 6.25% were made in the ED, with a median waiting time of 2 h 31 min. Otherwise, the median waiting time for palliative referral made in the ward is 19 h 20 min.

Conclusion

Identifying patients requiring EOL care and referral to palliative specialists is not routinely done in the ED despite it being the best setting for expedited admission. Doing so is shown to reduce the waiting time for referral to a palliative care specialist compared to referrals being made in the

ward after admission.

Early admission and referral improve the comfort of patients and their family, given the short median survival time of less than a day. This may be achieved using screening tools at the ED.

Trial Registration / Funding Information (only) :

nil

#23071 : Audit of Troponin Turnaround Time (TAT) from the point of care order to the point of delivery to the care provider

Authors:

Omar Ghazanfar (1), Saleh Fares (1), Abdul Rahim Baksh (2)

1. Emergency Medicine, Zayed Military Hospital, Abu Dhabi, United Arab Emirates
2. , Zayed Military Hospital, Abu DHabi, United Arab Emirates

Abstract :

Quality is defined as the ability of a service to satisfy the requirements and expectations of the end user. Clinicians are interested in service quality and service delivery and therefore require a rapid, reliable, repeatable and efficient service.

A 90% completion time (sample registration to result reporting) of <60 minutes for laboratory tests is **recommended** as **standard** for acceptable troponin turn-around time (TAT) by the Royal College of Pathologists Key Performance Indicators and the College of American Pathologists This measure serves to promote performance improvement and quality assurance within the laboratory.

This review aims to provide a consolidated source of benchmarking data useful to the laboratory in setting TAT goals and to encourage introduction of TAT monitoring as a **key** performance indicator.

Aims

To analyse retrospective data looking at troponin turnover time from point of ordering to the point of results availability.

Methods

Data was analysed at the Zayed Military Hospital looking at troponin requests made for emergent conditions from both the Emergency Department (ED) and the **rest of the facility** to include ICU, CCU, OPD and medical and surgical wards. This was done **by collecting data** using the electronic health record system over a period of 3 months from Feb 2019-May 2019.

Results

The results show that TAT for most of the departments, including the ED, although acceptable, there remains room for improvement across the hospital.

The delay in TAT is the time from lab receipt of the sample to the availability of the result on the Health Information System. Also noticeable **was** the increased time for specimen collection to the lab receipt of sample from the out-patient clinics.

Conclusions

There is a considerable delay in TAT from certain specific locations within the facility and although the availability of timely troponin results in acute areas is acceptable it still falls short of internationally accepted standards and a number of recommendations were made to improve this.

#23072 : Vital signs monitoring in the Emergency Department**Authors:**

Omar Ghazanfar (1), Saleh Fares (1), Neha Hudlikar (2)

1. Emergency Medicine, Zayed Military Hospital, Abu Dhabi, United Arab Emirates
2. Emergency Medicine, Zayed Military Hospital, ABu DHabi, United Arab Emirates

Abstract :

Introduction

The Royal College of Emergency Medicine in partnership with Royal College of Nursing and Faculty of Emergency Nursing and Emergency Nurse Consultant Association first developed and published the Vital Signs standards in 2010. No audit against these standards has been previously conducted in Zayed Military Hospital.

Why this audit?

1. The audit will look to see the proportion of patients in which pulse, BP, O2 saturation and respiratory rate, temperature and GCS/AVPU are all well recorded.
2. The proportion of patients for whom the six vital signs were recorded within 20 minutes of arrival to ED
3. Proportion of patients having a repeated measurement of vital signs within the 60 minutes standard.

Methodology

Inclusion criteria:

1. Adults 18 years of age and above
2. Presenting to ZMHED

Exclusion criteria:

1. Children or adolescents under the age of 18
2. Patients presenting to resus

Relevant data will be collected by access to the electronic medical records

Sample size and data frequency

As per RCEM recommendations, 5 consecutive cases will be entered per week. This will allow us to see the ED's performance on key measures changing week by week.

Data collection period

Data will be collected for a total period of 6 months starting from 1st Feb 2019 - 31st July 2019

Data sources

ED patient records in the electronic medical record (Cerner)

#23073 : Painful and panting: An audit on under- and over- treatment of symptoms in patients with imminent death at the emergency department

Authors:

En Lei Samuel Fong (1), Sherman Wei Qiang Lian (2), Gayathri Devi Nadarajan (2), Eng Hock Marcus Ong (2)

1. , , Singapore, Singapore

2. , nil, Singapore, Singapore

Keywords: Pain, Dyspnoea, Palliative

Abstract :

Background

Patients with chronic diseases most commonly present to the emergency department (ED) with pain or dyspnoea during their end-of-life (EOL) period. There are documented tendencies to under- or over- treat symptoms: oxygen (O₂) therapy could be unnecessary and analgesia could be neglected. The baseline pattern of symptomatic treatment is crucial for future studies on patient-centred care but has never been studied locally.

Aim

To study the pattern of symptom control given to imminently dying patients presenting to the ED.

Methods

A retrospective study was done on a 3-month period in a tertiary hospital ED. Patients who did not present with a cardiac arrest, had a diagnosis of a chronic disease and died within 72 hours were included. Patterns on symptom management were analysed using patient records. Outcomes of interest were pre-O₂ therapy saturation level (SpO₂), analgesia coverage and waiting time.

Results

A total of 59 patients with 67.8% males were studied. The median age was 75. Amongst the 59, 39.0% complained of pain while 57.6% received O₂.

Thirty-four patients, including 2 with COPD, received O₂, of which 67.6% complained of dyspnoea. Of the 32 non-COPD O₂ recipients, only 46.9% had pre-O₂ therapy SpO₂ below 94%.

Of the 23 patients who had pain, only 34.8% received analgesia. The median waiting time for delivery was 1 h 52.5 min.

Conclusion

Patients expect pain relief within 30 minutes, which this ED fell short of. A model involving administration of non-opioid analgesics at triage could be considered to shorten waiting time. A large proportion of patients with pain were not given analgesia. Efforts should be made to ensure that such patients are not denied analgesia.

A majority of non-COPD patients were given O₂ despite SpO₂ ≥ 94%, which is not indicated, regardless of dyspnoea. Unnecessary therapy causes discomfort from prongs or masks. Room air and non-pharmacological approaches like position adjustment and breathing exercises could be encouraged.

#23075 : A quantitative survey to assess the impact of a high-fidelity ex-vivo simulation model on the confidence level of participants on performing ultrasound guided regional nerve blocks

Authors:

Nick Mani (1), Jennifer Firth-Gieben (2), Veena Daga (3), Mohit Arora (3), Gilbert Purushothaman (3)

1. , , Sheffield, United Kingdom
2. , Leeds Teaching Hospitals NHS Trust, Leeds , United Kingdom
3. , Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom

Keywords: Ultrasound, Nerve/Regional Blocks, Model, Confidence

Abstract :

Background: Ultrasound guided regional nerve blocks are increasingly being utilised in the emergency and anaesthetic departments to increase patient care and safety. High-fidelity ex-vivo simulation model, such as salt solution-embalmed whole-body human cadavers, is important in safe and effective teaching and training of procedural skills. The aim of this study was to assess the impact of utilising such model in ultrasound guided regional nerve blocks pilot course on the confidence level of the participants.

Methods: All the Yorkshire and Humber deanery Acute Common Care Stem (ACCS) and Anaesthetic Trainees were invited by email to book onto the pilot of the course in September 2019 on first come first serve basis. The one-day course was held at the University of Leeds cadaver laboratory that has thiel embalmed fresh whole-body human cadavers as a high-fidelity (1-3). There were four main stations with 2:1 candidate to faculty ratio with GE Healthcare Venue 50 ultrasound machines: arm/brachial plexus, serratus plane, and femoral nerve/fascia iliaca compartment. There was a fourth extra station as Focused Assessment with Sonography for Trauma (FAST)/Focused Assessment for Free Fluid (FAFF) in none traumatic cases to improve the basic understanding of ultrasound and probe handling. All participants had the opportunity to perform the procedures and scans on the relevant body parts in real time with injecting normal water as a simulation for local anaesthetic agent. At the end the candidates were asked to anonymously complete confidence level scale, on a paper-based feedback form pre- and post-course. The confidence scale was 1-5, with 1 indicating unconfident and 5 fully confident. The median and interquartile range of the candidate confidence level was calculated as the primary outcome.

Result: All the 14 participants completed the confidence level scale pre- and post-course. The median improvement levels were 2, 3, and 1.5 (all interquartile range 1) for arm/brachial plexus, serratus plane, and femoral nerve/fascia iliac compartment respectively.

Discussion and Conclusion: Thiel embalmed whole-body human cadavers as a high-fidelity ex-vivo simulation model has been shown to improve surgical skills (1-3). As ultrasound guided regional nerve blocks are increasingly being utilised in the emergency and anaesthetic departments, a similar model is required. This is the very first pilot course of its kind. This course has demonstrated that utilising such simulation models could be useful for training/education and improve the confidence levels trainees performing ultrasound guided regional nerve blocks in their clinical practice with less supervision level.

References

1. Benefits and Pitfalls of Cadavers as Learning Tool for Ultrasound-guided Regional Anesthesia S. Chhavi, L. Sanjeev, R. R. Bikash, S. Sumit, K. Abhyuday, Anesth Essays Res. 2017 Jan-Mar; 11(1): 3-6.
2. Cadaver models for regional anaesthesia training J. P. Seeley Anaesthesia Volume71, Issue11. November 2016 Pages 1372-1372.
3. Cadaveric training – the solution for ultrasound-guided regional anaesthesia? A. K. Gupta Anaesthesia Volume71, Issue8. August 2016 Pages 874-878.

[LA1]increasingly being

[LA2]?Theil

[LA3]?at the end

[LA4]Theil

[LA5]Increasingly being

Trial Registration / Funding Information (only) :

None

#23076 : TRAUMA IN THE ELDERLY: THE REPERCUSSION OF THE FALL AS MORBIDITY**Authors:**

melissa Cesario (1), Marcelo Souza (1), Silvia Silva (2), Ana Lourenço (1), Edilson Carita (3), Elvio Pinotti (4), Nazir Soubihe Neto (5), Larissa Alem (1), Marcus Silveira (1), Felipe Pires (1), Pollyana Souza (1), Reinaldo Bestetti (6), Rosemary F Daniel (5)

1. University Ribeirao Preto , University Ribeirão Preto, ribeirão preto, Brazil
2. teacher nurse, Unaerp, ribeirão preto, Brazil
3. teacher, Unaerp, ribeirão preto, Brazil
4. medical, SAMU, ribeirão preto, Brazil
5. teacher medical, UNAERP, Ribeirão Preto, São Paulo, Brasil, Brazil
6. teacher medical, UNAERP, ribeirão preto, Brazil

Keywords: trauma, ederly

Abstract :

INTRODUCTION

Trauma is one of the most important causes of morbidity and mortality. According to the World Health Organization (WHO) and the Pan American Health Organization (PAHO), trauma mortality corresponds to 10% of all causes of death in the world. Trauma also accounts for the majority of permanent disabilities. The growing increase in the elderly population brings to light the greater severity of trauma in this population. According to the Brazilian Institute of Geography and Statistics, in 2017, the population aged 60 or over represented 20.6% of the Brazilian population. Currently, trauma is the seventh leading cause of death in the elderly, overtaken by heart disease, cancer, chronic obstructive pulmonary disease, stroke, diabetes and pneumonia. Although patients 65 years of age or older are less likely to experience trauma than younger individuals, they are more likely to die from injuries. This high mortality rate reflects the decrease in the physical reserves of the elderly due to changes resulting from aging, comorbidities and a lack of understanding of their needs by health professionals. Among the traumas suffered by the elderly, the most frequent are falls. Worldwide estimates indicate that about 30% of the elderly fall at least once a year and 13% on a recurring basis (WHO, in 2010). About 5 to 10% of falls in the elderly have the following consequences: fracture and head trauma. The aim of this study was to characterize the trauma morbidity profile in patients seen at the Emergency Unit in Ribeirão Preto / SP, Brazil.

METHODS

This is a descriptive, cross-sectional study with a quantitative approach, carried out from June 4 to July 5, 2019, with trauma victims, who were admitted to the Emergency Unit "Dr. Luis Atílio Losi Viana" (EU) in Ribeirão Preto, Brazil. The patients were divided into 2 groups: A - under 60 and B - 60 or over; analyzing the variables: age; type of trauma; need for hospitalization or specialized evaluation after primary care.

RESULTS

In the analyzed period, 94 trauma victims were admitted to the EU, attended by spontaneous demand and with the mobile emergency service or Fire Department. Patients under 60 years old (A) corresponded to 81% of the visits (average of 33 years); in the group aged 60 or over (B), it was 19% (mean 72 years). In group B, falls represented 83% of the causes of trauma, compared to 28.9% in group A, with the main cause of trauma being car accidents. As for the evolution, considering the specialized evaluation or hospitalization, in group B (54%) and in group A (40%) the patients needed these referrals; respectively.

CONCLUSION

This study concluded that the majority of visits resulting from trauma occurred in patients under 60 years of age. However, in patients over 60 years of age, falls represent the most prevalent etiology. In relation to morbidity and mortality, these patients had a greater need for transfer to specialized assessment or hospitalizations, presenting clinical conditions that may contribute to their temporary or definitive functional decline.

Trial Registration / Funding Information (only) :

Work approved and released by the ethics committee in research - Platform Brazil

#23078 : Establishing a novel high-fidelity simulation model for effective teaching and training of ultrasound guided Fascia Iliaca Compartment Block, and a quantitative survey to assess its impact**Authors:**

Nick Mani (1), Mohit Arora (2)

1. , Leeds Teaching Hospitals NHS Trust, Sheffield, United Kingdom

2. , Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom

Keywords: Ultrasound, Nerve/Regional Blocks, Model, Confidence

Abstract :

Background: Ultrasound guided fascia iliaca compartment block has increasingly been utilised in the emergency and anaesthetic departments in the initial symptom control of patients presenting with neck of femur fractures. High-fidelity simulation models that are reproducible and sustainable for effective teaching and training have been lacking. The aim of this study was to establish a model, and to assess its educational and training impact on local and regional courses.

Methods: Three fresh chicken breasts were stacked on top of each other, with the middle breast placed inside a plastic sandwich bag representing the fascia lata and iliaca on either side. Two modelling balloons were filled with water, and a stripped electric wire was prepared, to represent femoral vessels and nerve respectively. These were placed accordingly between the chickens and bag. The whole model was sutured using size one suture and a cling film were applied around it all before placing the completed assembly on a tray. Ultrasound linear probe was used to ensure the correct sonographic representation of the structures. This represented a high-fidelity simulation model which was used at the Leeds Teaching Hospital Trusts Emergency Medicine Junior Clinical Fellows teachings, and the Yorkshire and Humber deanery Acute Common Care Stem (ACCS) Trainees mandatory regional introductory ultrasound courses. All trainees had the opportunity to perform the procedures in real time with injecting water as a representation for local anaesthetic agent with direct supervision. At the end the candidates were asked to anonymously complete an electronic feedback form with four questions. These were confidence level pre- and post-simulation, the tactile feedback of the model, and the sonographic representation of the structures. The scale was 1-5, with 1 indicating lowest and 5 highest. The median and interquartile range of for each response was calculated as the primary outcome.

Result: All the 65 participants completed the questionnaire. The median improvement levels were 2 (IQR 2), 4 (IQR 1), 4 (IQR 1), 4 (IQR 1) for confidence level pre- and post-simulation, the tactile feedback of the model, and the sonographic representation of the structures, respectively.

Discussion and Conclusion: We have shown that it is feasible to establish a reproducible and sustainable high-fidelity simulation model for effective teaching and training of ultrasound guided Fascia Iliaca Compartment Block. This could improve the confidence level of trainees in performing the procedure in clinical practice with less supervision level.

Trial Registration / Funding Information (only) :

None

#23079 : USE OF JOIN IN THE MANAGEMENT OF PATIENTS WITH SUSPECT VASCULAR ACCIDENT (STROKE) IN AN EMERGENCY UNIT OF RIBEIRÃO PRETO / BRAZIL

Authors:

Rosemary F Daniel (1), Marcelo Souza (2), Silvia Silva (3), Larissa Alem (2), Marcus Silveira (2), Felipe Pires (2), Edilson Carita (4), Tufik Geleilete (5), Santos Luis (6), Elvio Pinotti (7), Pollyana Souza (2), melissa Cesario (2), Ana Lourenço (2), Reinaldo Bestetti (8)

1. teacher medical, UNAERP, Ribeirão Preto, São Paulo, Brasil, Brazil
2. University Ribeirao Preto , University Ribeirão Preto, ribeirão preto, Brazil
3. teacher nurse, Unaerp, ribeirão preto, Brazil
4. teacher, Unaerp, ribeirão preto, Brazil
5. teacher medical , Ribeirão Preto University, ribeirão preto, Brazil
6. resident doctor, UNIFESP, ribeirão preto, Brazil
7. medical, SAMU, ribeirão preto, Brazil
8. teacher medical, UNAERP, ribeirão preto, Brazil

Keywords: stroke, emergency unit

Abstract :**INTRODUCTION**

Stroke is characterized by the appearance of a sudden neurological deficit, which can be classified as ischemic (85% of cases) or hemorrhagic. It is the disease that most kills Brazilians and also the main cause of disability in the world. Prompt treatment is particularly important in the management of ischemic conditions, which cause irreversible damage to the affected organs, such as the brain. In view of this scenario, the Brazil AVC Network, in partnership with Allm and with the support of Boehringer Ingelheim, presented the TeleStroke which, through the Join application, allows rapid communication between medical teams in order to optimize the management of patients with suspicion of AVE.

Join obtained certification as a class II medical device in Japan from July 2015 and, in the same period, was also approved as a class I medical device by the Food and Drug Administration (FDA).

OBJECTIVES

This study aims to describe the experience of using and treating patients from the use of the Join mobile application in the Emergency Unit of Ribeirão Preto-Brazil.

MATERIALS AND METHODS

This work was carried out through the retrospective analysis of the database stored in the Join application and in the Hygia Information System, employed at the UPA of Ribeirão Preto - SP, Brazil, in the period between November / 19 and February / 20.

RESULTS

The Join application, through a specific questionnaire, scores the signs presented by patients with suspected stroke. It is composed of questions that include age, use of anticoagulants, time of onset of symptoms, changes in the face, arm, speech, speech comprehension and eye deviation. The final analysis of the score of the variables indicates the probability of occlusion of large vessels, the need for referral to a highly complex Hospital and the result of the FAST-ED (Field Assessment Stroke Triage for Emergency Destination).

This study evaluated the result of the Join application in 18 referrals made at the Emergency Unit.

The mean age of the patients was 62.3 years (N = 18 patients). Of these, 67% maintained clinical follow-up at the Basic Health Units after the acute event. The average time between registration in the system and referral to the Hospital, after communicating through Join, was 23.4 minutes (N = 10 patients). The FAST-ED had an average score of 4.75 (N = 8 patients) and 75% of the patients had a probability of occlusion of large vessels that varied from 60 to 85% (N = 8 patients). The remainder, less than 30% probability.

The application allowed for quick communication between the emergency room physician and the hospital staff, improving the patient's prognosis.

CONCLUSION

The use of the application in Ribeirão Preto - SP, positively impacted the clinical evolution of patients who had their screening in real time among medical teams (Emergency Unit and Hospital)

Trial Registration / Funding Information (only) :

Work approved and released by the ethics committee in research - Platform Brazil

#23080 : A survey on the recognition of child maltreatment in emergency departments in Europe: we should do better.

Authors:

Patrycja Puiman (1), Feline Hoedeman (1), Andrea Smits (2), Mariëlle Dekker (2), Hester Diderich-Lolkes de Beer (3), Said Laribi (4), Door Lauwaert (5), Rianne Oostenbrink (1), Niccolo Parri (6), Luis Garcia-Castrillo Riesgo (7), Henriëtte Moll (1)

1. General Paediatrics, Erasmus MC Sophia Children's Hospital, Rotterdam, The Netherlands
2. , Augeo Foundation, Driebergen, The Netherlands
3. Emergency Department, Medical Center Haaglanden, The Hague, The Netherlands
4. Emergency Department, Tours University Hospital, Tours, France
5. Emergency Department, University Hospital Brussels, Brussels, Belgium
6. Emergency Department & Trauma Center, Ospedale Pediatrico Meyer Firenze, Florence, Italy
7. Emergency Department, University Hospital Marques Valdecilla, Cantabria, Spain

Keywords: child abuse, child maltreatment, emergency department, Europe, detection

Abstract :

Background: Early recognition of child maltreatment and subsequent intervention is crucial to minimize the negative impact of child abuse on individuals as well as on society. Child maltreatment is a major public health problem and responsible for a huge socio-economic burden. However, child maltreatment remains difficult to identify. Policies such as systematic screening for child maltreatment at the emergency department (ED) using a screening tool, recognizing (parental) risk factors in patients admitted at the ED, and training of hospital staff has shown to increase the detection rate of child maltreatment. We questioned to what extent such policies were used in European EDs. Hence our aim was to evaluate the organization of different policies used to recognize child maltreatment in EDs in Europe in order to define areas of improvement to detect child maltreatment.

Methods: A survey was conducted on the recognition of child maltreatment in EDs in European countries with a focus on screening methods, parental risk factors and hospital policies regarding child maltreatment. The survey was distributed through different key members from REPEM, the EuSEN and the EUSEM and at the EUSEM congress 2018. Responses from unknown hospitals and non-scorable surveys due to missing data were excluded. The NICE guideline on child abuse and neglect was used to develop a 'NICE-score' reflecting to what extent European EDs met NICE guideline recommendations on 1) detection of child maltreatment, 2) recognition of parental risk factors and 3) hospital policy by categorizing EDs into meeting few (<50% of maximum score), some (50-75% of maximum score) or most ($\geq 75\%$ of maximum score) of the NICE guideline recommendations.

Results: We analysed 185 completed surveys, representing 148 hospitals from 29 European countries. Of the respondents, 50.8% had a standardized hospital policy for the detection of child maltreatment, 28.6% used a screening tool, and 52.3% had no guidelines on parental risk factors. A total of 42.2% respondents did not follow training on the recognition of child maltreatment based on child characteristics, nor did 57.6% on parental characteristics. A total of 71.9% indicated that there was a need for training. Extrapolating survey results to NICE-scores revealed that, of the EDs in Europe, 25.6% (34/133) met most, 22.6% (30/133) met some and 51.9% (69/133) met few of the NICE guideline recommendations on child maltreatment.

Discussion & conclusions: There is a high variability in policies for child maltreatment detection and only a quarter of the EDs met most of the NICE guideline recommendations. This first study on the organization of the recognition of child maltreatment in different European EDs identified the need for the use of screening tools, the need for training of ED staff and the need for implementation of local hospital policies in order to improve early recognition of child maltreatment.

#23082 : Arboviroses: the difficulty of clinical diagnosis in front of a epidemic

Authors:

Reinaldo Bestetti (1), Rosemary F Daniel (2), Renata Joviliano (1), Silvia Silva (3), Edilson Carita (4), Larissa Alem (5), Marcus Silveira (5), Felipe Pires (5), melissa Cesario (5), Pollyana Souza (5), Santos Luis (6), Marcelo Souza (5), Ana Lourenço (5), Tufik Geleilete (7)

1. teacher medical, UNAERP, ribeirão preto, Brazil
2. teacher medical, UNAERP, Ribeirão Preto, São Paulo, Brasil, Brazil
3. teacher nurse, Unaerp, ribeirão preto, Brazil
4. teacher, Unaerp, ribeirão preto, Brazil
5. University Ribeirao Preto , University Ribeirão Preto, ribeirão preto, Brazil
6. resident doctor, UNIFESP, ribeirão preto, Brazil
7. teacher medical , Ribeirão Preto University, ribeirão preto, Brazil

Keywords: arborvirus, dengue virus, epideic, zika virus

Abstract :**Introduction**

Arbovirus is the term used to define viruses that have their replication cycle in insects (atropod vectors). The most common in Brazil are: Dengue (DENV), Zika (ZIKV), Chickungunya (CHIKV), and Yellow Fever. Due to the similarity of the initial clinical pictures, complementary exams such as: complete blood count, serology using the MAC ELISA technique, PCR, viral isolation and rapid NS1 test for DENV can help in the diagnosis. This work aims to demonstrate the difficulty in differentiating Arboviruses through clinical diagnosis and to evaluate the evolution of different cytokines in an Arbovirus epidemic.

Methodology

A Cross-Sectional Study was carried out. Samples were collected from 03/09/2016 to 05/10/2016. Patients over the age of 12 who sought care at the Ribeirão Preto Emergency Care Unit complaining of fever, general malaise, headache, myalgia, arthralgia and rash were treated and included in the study after signing the free and informed consent form. enlightened. After initial physical examination of the patients, blood samples were collected for laboratory tests recommended by the Ministry of Health (TGO, TGP, blood count), serology and cytokine analysis (performed by the University of Ribeirão Preto). The cytokines evaluated were: IL1 , IL2, IL4, IL5, IL6, IL8, IL10, IL12, IL13, IL 17, INF Gamma, TGF beta, TNF alpha.

Results

280 samples were collected. Of this total, 78 were discarded because they did not present positive serology. Positive cases (202) are divided into: DENV- 132 (65.02%), ZIKV- 44 (22.16%), CHIKV- 26 (12.80%), with 85.22% of the patients seen at first four days of symptoms. As for the analyzed symptoms, Arthralgia was observed in 81.81% - DENV, 65.90% - ZIKV and 69.23% - CHIKV; Headache in 80.30% - DENV, 93.18% - ZIKV and 96.15% - CHIKV; Myalgia in 98.48% -

DENV, 97.72% – ZIKV and 96.15% – CHIKV; Fever in 78.78% – DENV, 75.00% – ZIKV and 69.23% – CHIKV. Regarding the results of cytokines, there was a significant difference in relation to the control. However, among the studied Arboviruses, they did not present significant changes. IL4 and TNF alpha showed no significant change with the control.

Discussion and Conclusion

There was a predominance of DENV cases, but the symptoms fever, myalgia, headache and arthralgia were prevalent in the three Arboviruses evaluated. This shows the difficulty in clinical differentiation during an epidemic when specific tests are not available. In Arboviroses, the innate immune system requires a quick response to control the infection. Type I interferons are considered central mediators in protecting against DENV and ZIKV. CHIKV leads to an acute immune response triggered early with an increase in anti-inflammatory mediators such as interferon type II. Regarding the first line of immune response to infection by the evaluated Arboviruses, there was an increase compared to the control. In the presence of more than one circulating virus, differential diagnosis is necessary for better clinical evolution of patients. Thus, quick test exams are necessary.

Trial Registration / Funding Information (only) :

Work approved and released by the ethics committee in research - Platform Brazil

#23083 : Does a one-to-one training and evaluation program improve protocol adherence to a national nurse decision guided pain management protocol? A retrospective chart review.

Authors:

Gineke Koopmans-Klein (1), Eugène den Boer (2), Xavier Moors (3), Frank Huygen (4)

1. Medical Department, Mundipharma Pharmaceuticals B.V., Leusden, The Netherlands
2. , RAV Brabant Midden-West-Noord, Breda, The Netherlands
3. Department of pediatric anesthesiology, Erasmus MC, University Medical Center Rotterdam-Sophia Children's Hospital, Rotterdam, Rotterdam, The Netherlands
4. Center for Pain Medicine, Erasmus MC, Rotterdam, The Netherlands

Keywords: pain management, protocol adherence, retrospective chart review, training, evaluation

Abstract :

Background:

Within a large rural emergency medical service (EMS) the implementation of a pain management protocol within the ambulance care national protocol (ANP) was accompanied by an intervention with a one-to-one training and evaluation program with in-house mentors (Care Evaluation Mentors (CEM)).

The aim of this study was to investigate if this training and evaluation program with a CEM in the implementation of a national nurse decision guided pain management protocol improved the application and adherence of the protocol.

Methods:

In 2016 and 2018 chart reviews were conducted of trauma patients with extremity injuries. Chart review was used to assess whether pain management practice for extremity injuries was in compliance with the "Pain Management" section of the ANP. Data of 2016 and 2018 were compared to evaluate the effect of the intervention with CEMs. We used descriptive statistics (percentages, means and standard deviations (SDs)) to analyze results.

Results:

The majority of patients were female (60.2% and 57.0%, 2016 and 2018 respectively). In 2016 mean age of included patients was 60.2 (sd 25.6; range 2-106) and in 2018 mean age of included patients was 59.1 (SD 25.3; range 1-105).

The number of runs with pain medication almost doubled over time (from 4984 in 2016 to 9002 in 2018). In 2016 before CEM-intervention the top three medications given were 1. a combination of fentanyl and paracetamol (32.2% of runs; n=1607), 2. fentanyl (25.7% of runs; n=1281) and 3. paracetamol (18.7% of runs; n=930). this top three shifted in 2018 after the CEM-intervention to 1. paracetamol (35.3% of runs; n=3032), 2. fentanyl (30.5%;n=2623) and 3. a combination of fentanyl and paracetamol (16.1% of runs ; n=1379).

Two identified deviations from the protocol in 2016 were administration of fentanyl without the co-administration of paracetamol and co-administration of midazolam with esketamine. After the training intervention with the CEM the co-administration of midazolam with esketamine decreased from 65.2% to 41.0% of midazolam administrations. However, the 2018 data showed an increase in the administration of fentanyl without the co-administration of paracetamol (from 25.7% to 30.5% of runs). The most likely identified reason for this protocol deviation is that patients had already taken paracetamol before arrival of the EMS service, which unfortunately is not registered within the EMS chart.

Discussion & Conclusions:

The data of 2016 and 2018 clearly showed that pain management within the EMS changed over time (before and after intervention with a CEM). Use of paracetamol increased and use of fentanyl and esketamine decreased over time. Co-administration of midazolam with esketamine and co-administration of fentanyl and paracetamol also decreased over time. The main limitation of this study is that it is a retrospective chart analysis and depends on the registration of medication within the EMS-charts. In conclusion, our study showed that using the intervention with a CEM resulted in treatment changes within the EMS-service indicating that the CEM intervention is a useful intervention.

Trial Registration / Funding Information (only) :

Trial Registration: n/a, retrospective chart reviews. Funding: this analysis was supported by Mundipharma Pharmaceuticals B.V. Declaration of interest: G. Koopmans-Klein is an employee of Mundipharma Pharmaceuticals B.V.

#23085 : Zero tolerance for drugs at music mass gatherings doesn't work - the war on drugs is dead, long live the war on drugs

Authors:

Kris Spaepen (1), Ives Hubloue (1)

1. Research group in Emergency and Disaster Medicine, Vrije Universiteit Brussel, Brussels, Belgium

Keywords: Disaster medicine, Mass gathering medicine, Electronic dance music festival, Illicit drugs, Zero tolerance, Harm reduction

Abstract :

Background: Within mass gathering medicine, electronic dance music festivals (EDMF) form a unique subset. They are linked with high levels of (illicit) substance use resulting in higher patient presentation rates (PPR), higher transfer to hospital rates (TTHR), higher patient acuity and even deaths. For long a zero-tolerance policy was adopted to strive for drug-free EDMF. Several studies demonstrated that this approach doesn't work (Doekhie et al, 2010; Rosiers, 2019). Drugs will find their way into EDMF and zero-tolerance policy even encourages the buying of drugs, enhancing health related problems and even drug-related deaths (Winstock, 2016; Rosiers, 2019, Schrooten, 2019). With new psychoactive substances and highly potent drugs flooding the EDMF scene there's an urgent need for a new drug related policy at EDMF. Tomorrowland®, Belgium's biggest EDMF adopted a new drug related policy where the focus changed from zero-tolerance towards a harm-reduction policy. During the 2019 edition a new multi-agency approach was tested which focussed on an integrated drug policy: communication pre- and during the event by the event organiser, focus on amicable settlement by law enforcement for seized user-dose illicit drugs but prosecution for drug dealers, redesigning first aid posts, training festival crew on first aid.

Relevance: a new drug related policy will influence the need for onsite medical staffing requirements at EDMF and risk assessments concerning PPR and TTHR at EDMF should be adapted.

Hypothesis: A drug related policy leaning towards harm reduction will lower the patient encounters with drug related health problems and will lower the need for transport to hospital of patients with drug related health problems.

Methods: A retrospective analysis of > 25,000 patient records was performed for patients treated by in event health services (IEHS) for drug or alcohol related health problems. Data on patient presentations for editions 2018 and 2019 was obtained from Het Vlaamse Kruis®, being the IEHS for this event, information on the drug use was collected from the patient (or bystander), clinical presentation and/or toxicological testing.

Results: Patient presentation rate did not change nor did the acuity of intoxicated patients and the patterns in the use of drugs. The TTHR did change with less than 9% of intoxicated patients needing transport in 2019 compared to 16% during the 2018 edition. There was no noticeable increase in the need for advanced treatment caused by combined drug and alcohol use.

Conclusion: Although the PPR and acuity of intoxicated patients during the 2019 edition didn't change compared to the 2018 edition, there was a noticeable decrease in TTHR. This had a positive impact on the IEHS with additional ambulance crewmembers available for on-site first aid at the festival site instead of leaving the site for the transport of patients to surrounding hospitals. Although the need for onsite medical expertise remains, further analysis and multi-level evaluation over longer periods of time are needed.

#23086 : Health outcome goals and healthcare preferences reported by older people with frailty and emergency care needs

Authors:

James Van Oppen (1), Simon Conroy (2)

1. Emergency Department, University Hospitals of Leicester NHS Trust, Leicester, United Kingdom
2. Department of Health Sciences, University of Leicester, Leicester, United Kingdom

Keywords: Emergency medicine, frailty, geriatrics, person-centred care, healthcare outcomes

Abstract :**Background**

Health outcome goals are the results which individuals seek from healthcare. These may not be limited to health state and could incorporate holistic themes including function, mood, social roles, and quality of life. Healthcare preferences here are the processes and procedures which individuals would accept in order to achieve their health outcome goals.

Our recent systematic review thematically classified older people's health outcome goals as efficient and comprehensive care, sensitivity towards vulnerability, and person-centred and informed care. We stressed the importance of understanding individual perceptions.

People living with frailty are known to have poorer outcomes from even short hospital stays. They benefit from person-centred, goal-directed care over protocol-driven pathway approaches. A better understanding of their healthcare goals would enable best care to be initiated in emergency departments.

Methods

This qualitative study design is based on grounded theory. 35 older people (aged over 65) with frailty (clinical frailty score over 4) are being recruited using opportunistic sampling during their emergency department attendance at Leicester Royal Infirmary (a large teaching hospital with diverse multicultural catchment). People with cognitive and communication barriers such as dementia are included, with familiar caregivers assisting as consultees.

Semi-structured interviews are being audio-recorded in participants' homes within one month of their acute care episode. Discussions focus on identifying the events and outcomes that participants wanted to take place during emergency care. Verbatim transcripts are being analysed contemporaneously using a blended approach based on constant comparison. Ideas expressed in the data are assigned codes, which are expanded and merged to yield theme categories.

Initial results

Data collection was paused due to the outbreak of COVID-19. Initial results showed a predominance of person-centred and holistic care themes among health outcome goals. 'Management of symptoms' was participants' most common goal for emergency care. People often had pain and wanted to feel comfortable. Participants were often living with severe frailty and wanted their mobility to be assessed, with goals of recovering their functional baseline. Within the 'information and understanding' theme, while participants had confidence in healthcare professionals and were generally willing to "do as we are told to feel better", they expected to undergo at least basic tests in order to receive a working diagnosis for their problem. People not only wanted to understand their illness, but also for explanations to be communicated to their relatives.

Participants reported healthcare preferences to include emergency department accessibility, cleanliness, and efficiency. People felt vulnerable and forgotten, both when in busy waiting rooms and on trolleys in closed cubicles. They wanted staff to be aware of their need for assisted feeding and toileting.

Discussion

Initial results showed older people with frailty to have some unique health outcome goals for emergency care. These should be assessed on an individual basis, and may show people to seek control of pain and maintenance of mobility in preference over cure of disease.

Trial Registration / Funding Information (only) :

Dr van Oppen was Specialty Registrar in Emergency Medicine and was funded by a National Institute for Health Research Academic Clinical Fellowship. Prof Conroy was Professor of Geriatric Medicine. This study received ethical approval (research ethics committee reference 19/WM/0098). This study was funded by a British Medical Association Foundation for Medical Research grant.

#23088 : Management of renal colic and compliance with Tullamore Emergency Department Pathway**Authors:**

Masa Petricevic (1), Anna Moore (2), Robert Eager (2)

1. Emergency Medicine Trainee, Royal College of Surgeons in Ireland, Dublin, Ireland
2. Consultant in Emergency Medicine, Tullamore Regional Hospital, Tullamore, Ireland

Keywords: renal colic, CT KUB, pathway

Abstract :

Background: Patients with suspected renal colic often present to Emergency Department. Management is changing rapidly and following most recent recommendations in treatment is crucial.

Aims: In Regional Hospital Tullamore we do not have urology services at the site. To provide smooth patient flow we have to establish the most effective guidelines to follow. Aim of this audit is to determine if current pathway for suspected renal colic is followed correctly.

Methods: We have identified fifty consecutive computed tomography of kidneys, ureters and bladder (CT KUB) orders by Emergency Physician for suspected renal colic through the National Integrated Medical Imaging System (NIMIS). We benchmark management of each patient with current hospital guidelines and pathway.

Results: In all the cases standardised pathway is used, but was not always strictly followed. The data from Tullamore Regional Hospital showed that 48% of the patients involved had confirmed renal calculi on the CT KUB. Only slightly more than a half of the patients had XR KUB following the positive CT scan for renal calculi. XR KUB is mandatory investigation for all confirmed calculi prior to the urology referral. Average time to be seen by the doctor from the time of triage is 97.2 minutes. Analgesia was offered with mean time of 75.9 minutes. In over than 60% first choice of analgesia was opioid treatment, either intravenously or per mouth, instead of recommended nonsteroidal anti-inflammatory drugs (if not otherwise contraindicated). Reviewing the blood test results it was found that none of the patient had orders for serum calcium and serum uric acid.

Conclusion/Discussion: Patients deserve a uniform high standard of care and medical staff need a system within which they can operate well to achieve that care. We have found that pathway has to be updated with new hospital and national guidelines. Furthermore, regular teaching should be provided to all nursing staff and doctors in Emergency Department. Our plan is to revise current pathway and establish ne updated one, with most recent guidelines from the Irish Association for Emergency Medicine and recommendation from the Urology Department in Tallaght university Hospital, Dublin.

#23089 : Methodological study about the reliability of radiation dose display of a computed tomography scanner in acute cranial imaging**Authors:**

Väinö Forss (1), Heikki Yli-Ollila (2), Jussi Vatanen (3), Ville Hällberg (4), Ari Palomäki (4)

1. , Tampere University, Tampere, Finland
2. Radiology, Kanta-Häme Central Hospital, Hämeenlinna, Finland
3. Emergency, Tampere University Hospital, Tampere, Finland
4. Emergency, Kanta-Häme Central Hospital, Hämeenlinna, Finland

Keywords: Radiation dose, computer tomography, CTDIvol, DLP, emergency department

Abstract :

Background: The use of computed tomography (CT) studies is increasing in emergency departments internationally, thus increasing the radiation affected to the patients. The typical international standard for the allowed difference between the dose reported by a CT scanner and the radiation dose measured with standard polymethyl methacrylate (PMMA) phantom is $\pm 20\%$. The objective was to develop a method to evaluate the accuracy of the radiation display and to analyse this difference in a CT scanner in Kanta-Häme Central Hospital ED and to calculate a correction factor for more comparable radiation dose values in further studies.

Methods: First, ten consecutive radiation dose measurements with undisturbed setting were performed, followed by the collection of all available measurement reports on the discrepancy between displayed and measured dose made over the course of years by our staff, vendor maintenance and supervising authority. Radiation dose data were analysed to determine average discrepancy and its difference from zero. Data were also analysed against imaging parameters, ambient air pressure and time to determine possible trends or associations in the variation of the discrepancy. **Results:** Doses measured with phantom were generally lower than doses displayed by the CT scanner. Discrepancies between displayed and measured doses varied between -3.46 and -0.10%, with a mean of -1.26% in our consecutive measurements, and between 4.65 and -17.3%, with a mean of -7.53% in the long-term data. Differences from zero were statistically significant ($p = 0.005$ and $p < 0.0005$ respectively) There were no trends nor connections in the variations.

Conclusion: Because the allowed difference between the radiation dose displayed by a CT scanner and the actual measured dose is substantially large, the average difference for every CT scanner should be determined and reported before radiation dose studies, since this reduces systematic error. This is especially the case when comparing multiple scanners.

#23090 : Correlation between patient satisfaction and length of stay in emergency department**Authors:**

Mikko Franssila (1), Lauri Tuovinen (2), Pakkanen Anu (2), Ari Palomäki (3), Ville Hällberg (2)

1. Doctor in training, Kanta-Häme Central Hospital, Emergency Department, Hämeenlinna, Finland

2. , Kanta-Häme Central hospital, Hämeenlinna, Finland

3. , University of Tampere, Faculty of Medicine and Life Sciences, Hämeenlinna, Finland

Keywords: Length of stay, patient satisfaction

Abstract :

Background

Patient satisfaction is a commonly used indicator for measuring the quality of healthcare. With centralization of emergency care in Finland, the number of patients have increased in all emergency departments (ED). Increasing number of patients are often associated with longer length of stay (LOS) in the ED.

Objective

The objective of this study was to evaluate association between patient satisfaction and the length of stay in the ED.

Methods

We measured the daily mean length of stay for the ambulatory patient in the ED of Kanta-Häme Central Hospital (KHCH). KHCH is the fifth largest secondary hospital in Finland. To analyze satisfaction, we used a commercial HappyOrNot Smiley Terminal™. Smiley Terminal was located in the lobby next to front door. In order to gather information of patient satisfaction, Smiley Terminal uses two different happy and two not happy faces, thus forming a 4-item Likert scale without neutral value. Satisfaction score for each day was calculated by counting the percentage of four different choices (100 points: very happy/ 66 ⅔ p: happy/ 33 ⅓ p: not happy/ 0 p: not at all happy). Daily LOS(mean) was compared with the satisfaction score.

Results

There were a total of 4596 ambulatory patients in ED between 1st of may 2019 ja 31st of july 2019. From day to day ED visits varied from 29 to 87 (mean 50). Mean LOS for the time period was 2 hours and 9 minutes. Daily variation was from 1 hour and 9 minutes to 3 hours and 27 minutes.

About 40 % (n=1840) of the patients used Smiley Terminal. In August 72% of the answers were very happy

or happy, in June 62% and in July 76% answers were happy. The average daily score was 71.7. It varied from 11 to 100. In a one single day 100 % of the answer were very happy. There was no clear negative linear correlation between ED visits and satisfaction score: $Y=-185.14X+ 88,168$: $R^2=0.07$.

Conclusion

During the study period the mean length of stay was 2 hours and 9 minutes. It seems that in this LOS range there was no correlation between the LOS and patient satisfaction.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding.

#23091 : Mobility measurement as predictor for mortality in acutely ill patients. A pilot study investigating usability and agreement between paramedics

Authors:

Stine Ibsen (1), Rikke Olesen (1), Søren Asmussen (1), Mikkel Brabrand (2), Erika Christensen (1)

1. Centre of Prehospital and Emergency Research, Department of clinical medicine, Aalborg University, -, Aalborg, Denmark

2. Department of Emergency Medicine, Odense University Hospital, -, Odense, Denmark

Keywords: mobility, risk assessment, pre-hospital

Abstract :**Background**

Vital signs can be used to predict outcome of acutely ill patients. However, patients with serious conditions do not always present abnormal vital signs. Previous studies have shown that loss of mobility on presentation at hospital is a predictor for mortality.

The aim of this study was to investigate the usability of a new, simple mobility measurement for acutely ill patients in ambulances and to test interrater agreement between paramedics.

Methods

We conducted both survey and semi structured interviews in January and February 2020 in collaboration with the Emergency Medical Services in the North Denmark Region (Falck Aalborg) and The Emergency Department at Aalborg University Hospital. Data collectors asked paramedics to assess acutely ill patients mobility immediately after hospital arrival. The two paramedics in each ambulance answered the question: “*How much help did the patient require to get onto the ambulance trolley?*” with the following answers: *none, a little, moderate* or *a lot*. Data were collected in two settings: 1) in the ambulance with a data collector observing the mobilization of the patient, and 2) at the Emergency Department. All raters (paramedics and data collector) scored the patient independently. Exclusion criteria were patients in immediate threat to life or limb and patients age <18. Data will be presented descriptively.

Results

Data from 80 ambulance runs were included in the study. Data from the ambulance observations (n=26) showed an agreement of 84% between the ambulance staff and 69% between the three raters (1 data collector and 2 ambulance staff). Data from the emergency department questioning (n=54) showed an agreement of 81% between the paramedics. The major reason for disagreement between the paramedics was concerning the statements *a little/moderate* with 12.5% (n=80). Disagreement concerning the statements moderate/a lot was 3.8% and for none/ a little 1.3%, none/moderate 1.3% and none/ a lot 1.3%

(n=80). Nine semi-structured interview were conducted and all nine informants considered the question to be easily understandable and applicable.

Discussion & Conclusion

This pilot study showed an agreement of 81-84% between paramedics who score emergency patients with the mobility question “*How much help did the patient require to get onto the ambulance trolley?*” The major disagreement was between the statements *little/moderate* (12.5 %).

This was a small study performed in one regional EMS and a single emergency department. However, the results indicates that the mobility measurement is applicable in a clinical practise to assess acutely ill patient 's mobility and may thereby contribute to future studies investigating acutely ill patients' mobility as predictor of mortality.

#23092 : Screening for frailty among older patients may reduce length of stay at the Emergency Department**Authors:**

Karin Erwander (1), Katarina Wilhelmson (2), Lina Holmqvist (3)

1. Department of Clinical Sciences, Lund University, Göteborg, Sweden
2. MD, ass prof, Centre for Aging and Health, University of Gothenburg, Göteborg, Sweden
3. MD, PhD, Sahlgrenska University Hospital, Göteborg, Sweden

Keywords: Frailty, Emergency Department, geriatrics, screening

Abstract :**Introduction**

Older persons are often high consumers of medical care, especially during their last years of life. At an emergency department (ED) 30 – 50 % of the patients consists of elderly patients and sometimes up to 90 % of the hospital beds are occupied by elderly patients. At the same time there are many risks associated with an ED-visit and admission to the hospital for the geriatric patient, increased risk of delirium, falls, infections, bed-ulcers and thrombosis. One important patient group is frail older patients. Frailty is characterized by increased vulnerability to stress. Longer waiting time at the ED increases the risk for adverse events for frail patients. Early identification of frailty in association with an ED-visit is important to be able to reduce length of stay (LOS) and the risk of morbidity and mortality.

Aim

This study's aim is to evaluate if screening for frailty may reduce length of stay at the ED and reduce morbidity and mortality for the older patient.

Method

This study is a retrospective analysis to assess the impact of screening for frailty on ED visits.

Sahlgrenska University Hospital started screening for frailty at the ED in November 2018. All patients over the age of 75 are screened for frailty using FRESH (validated screening instrument for frailty). LOS at the ED, time to admission, mortality, revisits to the ED and readmission were registered one year prior to the initiation of screening and were compared to data during one year after the full launch of the screening.

Results

Preliminary results indicate that screening for frailty reduce LOS at the ED. The analyses are not finalized but LOS for patients over the age of 75 has decreased by 19 minutes one year after the screening started. Still LOS at the ED for the older patients is approximately 45 minutes longer than for the younger patients.

Conclusion

Screening for frailty using FRESH seems to reduce LOS at the ED. Early identification of frailty gives us the chance to improve medical care, provide better nursing, reduce length of stay at the ED and thus reduce morbidity and mortality for this frail patient group.

#23093 : COVID-19 at War: the Joint Forces Operation in Ukraine

Authors:

John Quinn (1), Dan-Lucian Ghiurluc (1)

1. Emergency Medicine , London North West Hospital Trust: Northwick Park Hospital , London, United Kingdom

Keywords: Disaster Medicine, Health Security, War in Ukraine, COVID-19, NATO

Abstract :

The current COVID-19 pandemic is smashing every public health barrier, guardrail and safety measure across the least and most developed nations alike. Morbidity and mortality increase logarithmically while countries around the globe struggle to unify response, make gains on any level of preparedness, identify and symptomatically treat positive cases while research for a vaccine frantically persists in labs across the globe. As of late March 2020, over 550,000 positive cases have been reported, with over 26,000 deaths, and intensive Care Units (ICU's) in Italy, Spain, the US and UK are exceeding surge capacity. The global threat in previously high-quality, robust infrastructure healthcare systems have been challenged, and failures are forthcoming. The worst may be yet to come. This poses a particular and specific threat to Ukraine, where war has been waged by Russia since 2014 – warzones may become the next epicenter and see spikes in mortality from the COVID-19 pandemic. We discuss in this short report the requirement of increased NATO integration across Ukraine disaster response structures at the Ministries of Health, Defense and Interior in order to serve bio-surveillance, aid in pandemic response and bolster health security in European and across the Alliance.

Aim

This paper will highlight the unique challenges of disaster medicine in war in the presence of COVID-19. We highlight the specific challenges by Ukrainian ministries of defense, health and interior as they not only fight invading Russian forces, but also provide emergency medical services to vulnerable communities and struggle to establish effective public health responses to an increasing pandemic in 2020.

Trial Registration / Funding Information (only) :

N/A co-authors not listed: Trisha Jigar Dhabalia Global Health Intern Charles University First Faculty of Medicine Institute of Hygiene and Epidemiology Prague Center for Global Health dhabalit@student.cuni.cz James M Wilson V, MD FAAP CEO and Founder of M2 Medical Intelligence, Inc. Reno, Nevada jwilson@m2medintel.com Dr Jan-Cedric Hansen StratAdviser Ltd Cindynician Expert-Auditor jc.hansen@stratadviser.com Olesya Hulchiy MD. Dr PH Professor of Public Health Vice Rector of International Cooperation P.L. Shupyk National Medical Academy of Postgraduate Education Kyiv, Ukraine Olesya.hulchiy@gmail.com Olga Golubovskaya MD. Dr PH Professor of Faculty of Infection Diseases Honored Doctor of Ukraine, Ukrainian Expert for Disease Control and Prevention Bogomolets National Medical University golubovskaya@gmail.com Mykola Buriachyk Researcher and Academic Staff P.L. Shupyk National Medical Academy of Postgraduate Education Kyiv, Ukraine bnn_nmap@ukr.net Kondratiuk Vadim, MD Lieutenant Colonel Head of Infection Department Military Medical Clinical Center of North Region of Ukraine Kharkiv, Ukraine infekcion1979@gmail.com Rostyslav Zauralsky Head of the Transfusiology Efferent Medicine Department Kremenchuk Maternity Hospital Candidate of Medical Sciences, PhD Kremenchuk, Poltava, Ukraine amprofzab@gmail.com Oleg Vyrva, M.D., Ph.D. Chief Medical Officer Head of

Bone Tumor Department Ukrainian National Academy of Medical Sciences Sytenko Institute of Spine and Joint Pathology Kharkiv, Ukraine dr.olegvyrva@gmail.com Dmytro Stepanskyi, MD Head of Department of Microbiology, Virology, Immunology and Epidemiology Dnipro Medical Academy of the Ministry of Health of Ukraine Dnipro, Ukraine dstepanskiy@gmail.com Pokhil Sergiy Ivanovitch, MD Head of the Laboratory of New and Little-Explored Infections Disease Mechnikov Institute of Microbiology and Immunology National Academy of Medical Sciences of Ukraine Kharkiv, Ukraine pokhil_kharkiv@ukr.net Alla Mironenko, MD Professor of Medicine Head of Department of Respiratory & Viral Infections L.V. Gromashevsky Institute of Epidemiology & Infectious Diseases National Academy of Medical Science of Ukraine National Influenza Center Kyiv, Ukraine miralla@ukr.net John E. McElligott, MPH, CPH Executive Director Maricopa County Medical Society Phoenix, Arizona john@mcmsonline.com

#23094 : Efficacy of Intravenous Chlorpromazine for Acute Paediatric Migraine: A Retrospective Cohort Study**Authors:**

Ruth Mari Löllgen (1), Ashley Hill (1), Greta M Palmer (2), Mark T MacKay (3), Franz E Babl (1)

1. Emergency, The Royal Children's Hospital , Melbourne, Australia
2. Department of Anaesthesia and Pain Management Service , The Royal Children's Hospital , Melbourne, Australia
3. Department of Paediatric Neurology, The Royal Children's Hospital , Melbourne, Australia

Keywords: Acute migraine, Chlorpromazine, Efficacy, Emergency department, Failure rate, Paediatric

Abstract :**Background**

Migraines are common acute care presentations. Yet, clinical practice varies with limited high-level evidence for acute migraine management in children and adolescents.

Objective

To establish baseline data on the efficacy of acute migraine treatment with intravenous (IV) chlorpromazine to inform future interventional studies.

Methods

Retrospective observational analysis of all emergency department (ED) visits for acute migraine to a tertiary children's hospital (annual census 89,000) over 12 months (2018). Patients were identified through electronic medical record search to assess management and short-term outcome. Migraine was subclassified as 'definite' (diagnosed by treating ED clinician, neurologist or pediatrician) or 'possible' (migraine listed in the clinician's differential diagnosis or IV migraine treatment administered in ED). We defined failure of IV chlorpromazine as requiring another migraine agent or hospital admission.

Results

994 patients presented with headache: 207 (20.8%) were diagnosed with migraine (definite, n=163, 78.7% or possible, n=44, 21.3%). 110 (53.1%) patients received oral agents only, 52 (25.1%) at least one parenteral agent beyond IV fluids, most frequently chlorpromazine (n=51/52; 98.1%). Overall admission rate to hospital or short stay was 74/162 (45.7%) (44/162; 27.2% post IV chlorpromazine). 25/51 (49.0%) chlorpromazine patients received additional migraine agents and 7/51 (13.7%) had adverse events including akathisia (one) and hypotension (2; one receiving an additional fluid bolus).

Conclusion

The efficacy and safety of IV Chlorpromazine in this small series of patients is unclear given the need for further treatment and hospital admission and needs to be explored in a randomised controlled trial.

#23095 : Can Acute Medical Assessment Unit (AMAU) help with Emergency Medicine overcrowding?

Authors:

Masa Petricevic (1), Patrick J. Murphy (2), Abdullah Shamshad (3)

1. Emergency Medicine Trainee, Royal College of Surgeons in Ireland, Dublin, Ireland
2. Consultant Physician, Tullamore Regional Hospital, Tullamore, Ireland
3. Registrar in Acute Medicine, Tullamore Regional Hospital, Tullamore, Ireland

Keywords: overcrowding, Emergency Department, Ireland, Acute Medical Assessment Unit

Abstract :

Background: Overcrowding in Irish Hospitals is a major problem effecting everyday care for patients and causing intolerable working environment for both medical and non-medical staff. The Emergency Medicine Programme for Ireland set out a target that 95% of patients should be either admitted or discharged within 6 hours of arriving at the Emergency Department (ED). However, this target is only achieved in around 60%. If we look further, it is only achieved in less than 30% for those patients requiring acute admission to a ward bed.

Aims: In order to improve patient outcomes, Regional Hospital in Tullamore is planning to open functional Acute Medical Assessment Unit (AMAU). To achieve in that we have to look into patient demographics, cause of presentation to ED and what treatment/diagnostic they will potentially require.

Methods: We have performed a cross sectional retrospective clinical audit of three hundred consecutive admissions via Emergency Department within the month of June 2019. Patients were categorized by the age, gender, source of referral, duration of stay and discharge destination. Additionally, we looked into the provisional diagnosis at the time of discharge.

Results: Majority of the admitted patients were in the age range between 61 – 80 years, followed by those over 81 years of age. Numbers of females and males admitted via emergency department is almost equal. Most of the patients, >90% are coming from home or they are referred by General Practitioner (GP). Approximately 50% of the admitted patients were discharged from the hospital within 48 hours, and destination of discharge was mainly home, with only 5% of the patients discharged to nursing home. Provisional diagnosis and differential diagnoses of the patient were as follow: transient ischemic attack (TIA) work up, chest pain work up, work up for collapse and headache, as well as brief admissions for urinary tract infections, lower respiratory tract infections and exacerbations of asthma and chronic obstructive pulmonary disease (COPD).

Conclusion/Discussion: From the results seen in this study we have identified main problems, as well as possible solutions for hospital overcrowding. It is clear that most admissions are for those patients over the age of 60. Detailed review of their presentation showed that easier access to long term and rehabilitative care would provide significantly shorter stay in the hospital. Another point from this study highlighted that majority of the patient need only brief stay in the hospital, mainly to access diagnostics like Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound or cardiac investigations. To allow timely access to investigations we will need appropriately resourced diagnostic, radiology and laboratory departments.

#23096 : Chest pain in the Emergency Department: Incidence, Clinical Characteristics, Risk Stratification and Outcome

Authors:

Renata Jukneviene (1), Beatrice Rasciute (2), Vytautas Juknevičius (1), Pranas Serpytis (3)

1. Clinic of Cardiac and Vascular Diseases, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

2. Faculty of Medicine, Vilnius University, Vilnius, Lithuania

3. Clinic of Emergency Medicine, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

Keywords: chest pain, acute coronary syndrome, risk stratification

Abstract :

Although chest pain is a common presenting symptom in Emergency Departments (ED), its clinical management is highly variable and depends on physicians as well as facilities. Due to limitations of historical, physical, and electrocardiographic data many of these patients are admitted, although the majority are later diagnosed with non-ischaemic causes of symptoms. Unfortunately, risk stratification is imperfect and patients with acute coronary syndrome (ACS) may be overlooked. We aimed to describe the characteristics of patients with chest pain and to evaluate the management and risk stratification in the ED between admitted and outpatient groups.

Methods:

A retrospective observational study was conducted from 2018 January till 2019 June. Data randomly included patients admitted to the ED with chest pain as the presenting symptom without ST-elevation on initial electrocardiogram (ECG). The various characteristics were registered: age, sex, time spent in the ED, etc. GRACE and HEART scores were calculated at admission. Patients were divided into two groups: 1st group- patients admitted to the cardiac ward after initial ED work-up; 2nd group- patients discharged from ED. Data were processed using R commander. The difference between the variables was reliable if $p < 0.05$.

Results:

A total of 90 patients with chest pain were analyzed. Mean age was 63.38 (± 13.29) years old with 72.2% ($n=65$) male and 27.8% ($n=25$) female patients. The average time spent in the ED was 4:43 ($\pm 2:45$) hours. An ECG and high sensitivity troponin-I (hs-cTnI) assay were performed in all 90 (100%), though second hs-cTnI repeated in 27 (30%) patients. Chest radiography was performed in 9 (10%), echocardiography in 3 (3.3%) and chest CT angiography in 3 (3.3%) patients. In general, 66 (73.3%) patients were hospitalized while the overall admission rate is lower (40,16%) and 24 (26.7%) were discharged. The difference in average GRACE score between groups was statistically significant (96.52 ± 24.35 vs 70.38 ± 26.01 , $p < 0.001$). Groups were similar in clinical presentation and all comorbidities except dyslipidemia occurring more often in the 1st group (59 (90%) vs. 8 (33%), $p < 0.001$). No statistical significance was estimated between groups arrived individually or Emergency Medical Services nor between time spent in ED. Furthermore, 39 (59%) patients from the 1st group got diagnosed with myocardial infarction (MI) while others were discharged with non-ischemic chest pain. None of the 2nd group patients were diagnosed with MI during follow-up (stress test combined with coronary CT angiography (CCTA)).

Discussion & Conclusions:

Clinical strategies and accurate diagnostic algorithm to differentiate between various chest pain in ED remains a challenge. A large percentage of patients with chest pain are hospitalized in order not to miss ACS. However, plenty of them is discharged with non-ischaemic causes of pain. Initially, these patients are identical according to their presentation, clinical condition or time spent in ED. With the current diagnostic algorithm the differentiation is difficult, although GRACE score is beneficial to detect high-risk patients. Consequently, Chest Pain Unit or Clinical Decision Unit capable to perform stress tests or CCTA would help to reduce hospitalization rate and to establish a final diagnosis.

#23098 : Impact of copeptin on early rule-out of acute coronary syndrome: safety and long-term prognosis**Authors:**

Renata Jukneviene (1), Beatrice Rasciute (2), Vytautas Juknevičius (1), Pranas Serpytis (3)

1. Clinic of Cardiac and Vascular Diseases, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

2. Faculty of Medicine, Vilnius University, Vilnius, Lithuania

3. Clinic of Emergency Medicine, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

Keywords: copeptin, acute coronary syndrome, early rule-out

Abstract :**Background:**

Chest pain is one of the most common complaints in the Emergency Departments (ED). Nevertheless, clinical management of it can differ depending on physicians and infrastructure. Many of these patients spend a great deal of time in the ED, although most are later diagnosed with non-ischaemic causes of the symptoms. In times of increasing crowding of ED, an early identification of low-risk patients is of great importance. New studies suggest copeptin—the C-terminal portion of Pro-Vasopressin—could improve the diagnosis of acute coronary syndrome (ACS). We aimed to describe the safety of an early rule-out strategy using combined testing of copeptin and high sensitivity Troponin (hs-TnI) at the admission of patients with clinical features suggesting ACS and to monitor their diagnoses, clinical course and outcomes.

Methods:

A retrospective observational study was conducted from 2018 January till 2019 June. Data included patients admitted to the ED with symptoms suggesting ACS without ST-elevation on initial electrocardiogram (ECG). The various characteristics were registered: age, sex, time spent in the ED, etc. Hs-TnI and copeptin were obtained at the admission. The patients were treated as defined by routine management. Two groups of patients were formed: the 1st group—primary discharge after rule-out. The 2nd group—no rule-out and secondary discharge. After 6 months, all-cause mortality or survival information was obtained. Data were processed using R commander, the difference between the variables was reliable if $p < 0.05$.

Results: A total cases of 80 patients with chest pain were analyzed. Mean age was 62.81 (± 13.12) years old with 72.5 % (n=58) patients being male and 27.5 % (n=22) female. 1st group – 28 patients, 2nd group – 52 patients. Prevalence of comorbidities, cardiovascular diseases, risk factors (family history, hypertension, smoking, Diabetes mellitus, dyslipidemia) were similar in both groups. THE average GRACE score was higher in the second group (65 ± 26 vs 98 ± 24 , $p < 0.001$). Median hs-TnI level in primary discharge group was 3.8 [3.8–11.2] ng/l, in the second group 111.5 [147–2199] ng/l, $p < 0.001$. Median copeptin level was 4.9 [4.7–8.1] pmol/l in the 1st group and 16.0 [19–72] pmol/l in the 2nd group, $p < 0.001$. ACS were diagnosed in 65.4% (n=34), all of them in the 2nd group. 6 months follow-up revealed mortality was 0% (n=0) in the 1st group and 3,8% (n=2) in the 2st group, $p=0,55$.

Discussion & Conclusions:

As a result, the incidence of no ACS among rule-out patients with 0% mortality after 6 months follow-up compared to 65.4% prevalence of ACS and 3,8% mortality among patients with the secondary discharge suggest that the algorithm is safe and efficient. Although further investigation is necessary.

#23100 : Adiponectin improves outcomes via regulated microglial polarization after cardiac arrest and cardiopulmonary resuscitation in mice**Authors:**

Sheng Ye (1), Songling Tang (1), Yarong He (1), Peng Yao (1), Junzhao Liu (1), Di Hao (1), Yu Cao (1)

1. Emergency Department, West China Hospital of Sichuan University, ChengDu, China

Keywords: Adiponectin ; microglial ; cardiopulmonary resuscitation ; neurological function

Abstract :**Background**

Cardiac arrest (CA) causes blood–brain barrier damage that frequently leads to severe loss of neurological function in survivors. The inflammatory response exacerbated by activation of microglial after cardiac arrest provides a potential therapeutic target. Adiponectin (APN) is a cytokine with anti–inflammatory effects secreted by adipocytes, but whether it can reduce the inflammatory, maintain blood–brain barrier integrity and improve outcomes after cardiac arrest is unknown. We tested the hypothesis that adiponectin would modulate microglial polarization, attenuate inflammation, improve neurological function and survival rates after cardiac arrest in rats.

Methods

Adult wild–type C57BL/6 and adiponectin–deleted (APN–/–) mice were subjected to electro–sophageal stimulation–induced CA for 5 minutes and subsequently resuscitated. Ten minutes after the spontaneous circulation recovery, wild–type mice were randomized to receive adiponectin 10ug, or saline as placebo. Neurological score and survival rate with wild–type mice were evaluated seven days after cardiopulmonary resuscitation. Blood–brain barrier permeability was assessed using Evans Blue (EB) leakage. Immunohistochemistry, immunofluorescence and western blotting was performed on cerebral cortex tissue to assess cortex inflammation, microglial polarization and tight junctions (TJs) damage with blood–brain barrier.

Results

A significantly elevated Evans–Blue leakage was detected in the cerebral cortex of the mice model after cardiac arrest, especially at 3h after return of spontaneous circulation (ROSC). Furthermore, microglia were markedly proliferated and the expression of IL–1 β and TNF– α protein were elevated at the same time. More importantly, Administration of adiponectin attenuated neurological function impairment and improved 7day–survival in wild–type mice after CA/CPR (75% in APN group versus 41.7% in CPR group; log rank P=0.002). Relative to CPR group, adiponectin improved the expression of tight junction proteins (Occludin and Claudin–5) with the blood–brain barrier, reduced the expression of inflammatory proteins (IL–1 β and TNF– α) in the cerebral cortex, and promoted polarization of microglia from the M1 phenotype to the M2 phenotype. Meanwhile, adiponectin–deleted further increased the cerebral cortex inflammation response, aggravated the destruction of the blood–brain barrier tight junction, and reduced the polarization of microglia to the M2 phenotype in APN–/– mice after ROSC.

Conclusions

Inflammatory induced by microglial proliferation to M1 phenotype led to further damage with blood brain barrier after CA/CPR. Adiponectin maintained blood brain barrier stability, improved neurological prognosis and survival rates via regulated microglial polarization and reduced inflammatory response after CA/CPR in mice. Our observations suggest that adiponectin is a novel therapeutic drug to improve outcomes after CA/CPR.

Trial Registration / Funding Information (only) :

The present work was supported by the National Natural Science Foundation of China (Grant Nos. 81772037)

Authors:

Emma Colley (1), Helen Stigaard Laird (2), Jessica Spedding (2), Robert Morgan (3)

1. Emergency Department, North Bristol Trust, Bristol, United Kingdom
2. Emergency Department, Royal United Hospital, Bath, United Kingdom
3. Anaesthetics, North Bristol Trust, Bristol, United Kingdom

Keywords: Touchscreen, resuscitation, cognitive load, PDSA

Abstract :**Background**

Good decision making during a resuscitation case in the Emergency Department (ED) can be hampered by crowding, patient acuity and working within large, unfamiliar multidisciplinary teams. Rapid access to clinical guidelines can enhance patient care by reducing cognitive load, can enable a shared mental model and is increasingly being delivered by electronic application.

ED guidelines at the Royal United Hospital were previously found in a lengthy document which could not be accessed easily at the bedside. Our objective was to create digital, rapidly accessible time-critical guidelines for the resuscitation room accessible via touchscreen computers at the bedside. The guideline called e-Resus includes checklists, emergency treatment algorithms and protocols for drawing up and giving emergency drugs. Several other EDs in our local region have introduced similar systems with good feedback.

The Royal United Hospital, Bath is a 565-bed district general hospital and major trauma unit seeing adults and children from a population of approximately 500,000.

Methods & Results

e-Resus was created using Powerpoint with a user-friendly layout with links to relevant condition specific

guidelines, drugs and checklists.

A preliminary time-and-motion study of clinicians performed before the introduction of eResus showed that times to access guidance ranged from 20secs up to 4mins 30secs. Median time of 1 min 30secs.

An initial PDSA cycle trialled a limited set of 10 adult guidelines in the eResus format on a dedicated laptop. A survey of the ED staff found the guidelines content to be very useful and appropriate for use in emergencies. A repeated time to access guidelines was reduced with a median of 27secs and range of 22secs up to 42secs.

In the subsequent PDSA cycle we developed a business plan to obtain funding for dedicated touchscreen computers. The guidelines were expanded to include adults and children. A re-evaluation of time-and-motion study demonstrated improved access times of between 5–15secs.

The final PDSA cycle saw the installation of eResus touchscreens into each resus cubicle with access to the full range of resus guidelines which are open at all times on the home page. Final time-in-motion study showed significant reduction in the time to access the guideline. Median of 9secs and a range of 4secs to 19secs. A survey was undertaken to establish team satisfaction which has shown that 85% of respondents use the eResus touchscreen regularly and 96% of these found the guidelines much faster to access than previously. Comments included 'easily accessed', 'a great resource ready at the touch of a button', 'is hugely helpful'.

Conclusions

This quality improvement project has shown a significant improvement in time to access clinically important and resuscitation-focussed guidelines, reducing the time from an initial median of 1 min 30secs to 9secs. It has improved clinician confidence and it is hoped that they will improve patient safety in the long term.

#23102 : Echocardiographic assessment of the fluid responsiveness in spontaneously breathing critical patients.**Authors:**

Caterina Savinelli (1), Francesca Innocenti (1), Adriana Gianni (1), Francesco Mirenda (1), Irene Tassinari (1), Riccardo Pini (1)

1. High-Dependency Unit, Department of Clinical and Experimental Medicine, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy

Keywords: Echocardiography, shock, fluids

Abstract :

Background: the aim of the study was to investigate whether respiratory variation of inferior vena cava diameter (cIVC) and velocity time integral of aortic blood flow (VTIAo) variation measured by transthoracic echocardiography during passive leg raising (PLR) maneuver can predict fluid responsiveness (FR) in spontaneously breathing critically ill patients.

Methods: this prospective study enrolled consecutive patients with acute circulatory failure (ACF) admitted to the Emergency Department High-Dependency Unit of Careggi University-Hospital from January 2015 to September 2019. All the patients had completed their initial resuscitation. Clinical signs of ACF were defined as the presence of systolic blood pressure < 90 mmHg or the use of vasopressors, urine output < 0.5 ml/Kg/h, tachycardia or mottled skin. For each patient, we performed an ultrasonographic examination and we assessed the cIVC and VTIAo variation during a PLR. Fluid responsiveness was defined as an increase in the VTIAo >10% during PLR or cIVC \geq 40%, if VTIAo measurement was not available. Patients fluid responders were treated with fluid challenges, in the others cases we used diuretics, inotropes or vasopressors. The therapeutic strategy was reassessed after 12 hours.

Results: we included 108 patients, mean age 63 ± 14 , 58% male gender. Eighty-five% were admitted for septic shock and 6% for exacerbation of COPD. In 88 patients, we assessed both VTIAo variation during PLR and cIVC: 49 were fluid responders and 45 received a fluid bolus; the treatment was confirmed at the 12-hour reassessment in 86% of the cases. Thirty-nine patients were not fluid responders and they received diuretics, inotropes and/or vasopressors: the therapeutic strategy was maintained in 95% of the cases in the following 12 hours. The VTIAo measurement during PLR was not available in 20 patients, so we decided the therapy by cVCI value. Among them, 5 patients were fluid responders and received a fluid bolus. This treatment was confirmed at the 12-hour reevaluation. Fifteen patients were non FR, 11 were treated with diuretic and/or inotropes-vasopressors, with a change of the treatment in two cases in the following 12 hours.

Based on these data, we evaluated the diagnostic performance of the two echocardiographic methods. The specificity was similar (82 % for cIVC vs 84% for VTIAo), but VTIAo during PLR showed a significantly better sensitivity (96% for VTIAo vs 57% for cIVC, $p < 0.001$) and negative predictive value (96% for VTIAo vs 67% for cIVC, $p < 0.001$) than cIVC.

Conclusions: in spontaneously breathing patients with ACF, the VTIAo variation during a PLR maneuver showed a better diagnostic accuracy than cIVC in predicting fluid responsiveness.

Trial Registration / Funding Information (only) :

Not applicable

Authors:

George Teo Voicescu (1), Marco Becerril (2), Francesco Della Corte (3), Luca Ragazzoni (3)

1. Department of Emergency Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Brasov, Romania

2. , Facultad de Medicina - UAEM, Cuernavaca, Mexico

3. CRIMEDIM - Research Center in Emergency and Disaster Medicine, Università del Piemonte Orientale, Novara, Italy., CRIMEDIM - Research Center in Emergency and Disaster Medicine, Università del Piemonte Orientale, Novara, Italy., Novara, Italy

Keywords: Disaster Medicine, Education, Medical Students, Undergraduates

Abstract :

Background: Disaster Medicine (DM) is a unique, systems-oriented specialty. The DM specialists are required to interact and work among multiple responding agencies. Although many studies have shown the importance of DM education implementation during medical schools, most of the medical universities do not include DM training in their standard curricula. Nevertheless, the recent COVID-19 pandemic proves us once more the need of standardization in DM education and widespread of this academic topic. The aim of this review was to document the actual state of DM education for medical students (MS) worldwide.

Methods: A search of electronic databases (Pubmed, Cochrane, SCOPUS), using the MeSH Terms "Disaster medicine" AND "Education" was conducted. Titles and abstracts were screened initially. The inclusion criteria were: articles related to disaster medicine, analyzing DM training/education and investigating a medical undergraduates program. After reviewing the content of the selected articles, a manual search of the reference lists was performed for additional relevant records, based on author consensus. Articles have been screened in order to extract the subjects taught in a DM course, the impact of the course, the teaching methods used and the interest of MS in the topic. During all the steps, the articles were analyzed by two independent researchers and all the decisions were taken after reaching consensus.

Results: After searching the databases, a total of 475 studies were identified and 75 studies were eligible for review, dating from 1986 to 2020. After reviewing the original selected studies, 41 additional studies were identified from the manual search of the references and were included in the final data extraction. Most of the articles reported on need of DM education for MS and the various formats of DM training courses.

Conclusions: From our knowledge, this is the first comprehensive review in DM education in undergraduate MS. We have observed a lack of standardization in DM course topics, depending on the University or the country where the course was organized. While most of the existing courses have included workshops in form of drills or simulations, they do not respect a scientific approved organizational structure or evaluation method. Lately, the e-learning and distance learning courses have shown promising results and, when combined with practical simulations, have similar or even better outcome as the classical teaching methods. Surprisingly, all the studies that have evaluated the enthusiasm of MS about DM showed high interest rates among them. They were mostly attracted by the combination of practical drills and theoretical courses. Unfortunately, most of the

reviewed studies were organized in developed countries. Although most disasters happen in underdeveloped regions, there is a clear lack of training in these areas. Further research is needed in order to reach an expert consensus regarding DM education for undergraduate students. Moreover, an evaluation of the resources that developing countries would invest in DM education should be performed and a future DM curricula implementation guideline should be focused on those countries.

Trial Registration / Funding Information (only) :

Nothing to declare.

#23104 : Assessment of withholding or withdrawing life-sustaining treatment decision in Emergency department**Authors:**

Christelle Hermand (1), Cécile Chauveau (2), Muriel Chaillet (2), Emilio Alvarez (2), Bleuenn Brunet (2), Aurelie Lefevre (2), Youri Yordanov (2)

1. Urgences, Hopital Saint Antoine, 75571, France

2. Urgences, Hopital Saint Antoine, PARIS, France

Keywords: End-of-life Withholding or withdrawing life-sustaining treatment

Abstract :

Background

Withholding or withdrawing life-sustaining treatment decisions have to be made right from the emergency department. Terminal patients or patients with acute disease and vital prognosis engaged are concerned. This situation remains complex. A working group wrote and has implemented an enquiry to be completed for all patients who the physician decided a withholding or withdrawing life-sustaining cares. In a first part, autonomy, comorbidities and acute situation, patient's desire, family contact and wishes are collected and who make the decision. In the second part we can find a list of different cares (cardiac monitor, urinary probe, antibiotics, transfusion, cardiac resuscitation...) the monitoring and the possible prescription of pain killer and sedation.

The aim of study is the assessment of this document.

Methods

It's an observational, monocentric and retrospective study from 01/01/2018 to 31/12/2019.

A file is completed for all patients who have withholding care decision. The data collection was made by a senior doctor and a copy of the enquiry was made.

Results

84 files were recovered. 52% were women. Middle and mean age were respectively 85 and 89 year old [48-104]. 45% had respiratory distress, 27% neurological failure, 14% septic shock, 6% heart failure, 3% hemorrhagic shock. Glasgow Coma scale when the decision was made was less than 13 in 72.6% of patients. 19 patients (22.6%) had an active cancer and 5 had even palliative care decision. 89% had a limited autonomy and 39% had cognitive disorders. In 67.8% of patients, ICU physician was called. Withholding or withdrawing life-sustaining treatment decision was in all cases a collegial medical decision. In 14% of cases, patients were concerted, family in 84.5% and paramedical team in 63%. For all patients, no intensive care unit (ICU) admission and no invasive care were decided, for 27 patients (32%), sedative and morphine prescription was immediately introduced. For 12 patients, all the therapeutics was stopped. 61 patients (72.6%) have died during hospitalization, 21 the first day. 2 patients refused admission and were discharge after the consultation. 16 patients (19%) went back home. Their middle length of stay was 9 days.

Discussion and conclusions

Withholding or withdrawing life-sustaining treatment decision is a part of the emergency physician's job. It's a balance between medical ethics and patient's desire. Pain, lack of therapy, airway management, length and quality of life should be considered. In this study there is two types of patients : a part of them had a vital prognosis immediately engaged, the second part are patients with serious pathology and the decision is maximal medical care but no cardiac resuscitation and non ICU admission if deterioration.

The implementation of this enquiry in our department was agreed by all the team and the fact to complete the file is not equivalent of death. The collegial decision and the family implication improve the communication and the care's organization.

#23105 : Heart score and low risk patients: data from a prospective observational study

Authors:

Maria Laura Artesiani (1), Eleonora Tubertini (2), Ilaria Caramella (1), Vittorio Cucciardi (1), Valentina Gamberini (1), Francesca Trabalza (1), Luca Santi (2), Gabriele Farina (2), Alice Grignaschi (1), Mario Cavazza (2), Perrone Daniele (1), Giada Mastrogirolamo (1), Nicola Carangelo (1), Fabrizio Giostra (1)

1. emergency department, Sant'Orsola Hospital, Bologna, Bologna, Italy

2. emergency department, Sant'Orsola Hospital, Bologna, Italy

Keywords: heart score, chest pain, low risk patients, prospective study

Abstract :**Background**

A significant percentage of Emergency Department (ED) admissions is due to chest pain. The HEART Score (mHS) modified by using high-sensitive Troponin (hs-Tn) and

different ECG criteria has been proposed to assess patients admitted to the ED with chest pain. The performance of this scoring system has been evaluated in a retrospective study

from 2015, showing that, out of 1378 enrolled patients, 37.2% were identified as low-risk subjects and none of them presented a major adverse cardiac event (MACE) at 6 months

follow-up.

Here we present data of an ongoing study from our Institution, ending in November 2020, carried out to prospectively evaluate the mHS. The primary aim of the research is to assess the

accuracy of the mHS, using hs-Tn, to identify low risk patients. The secondary aim is to assess the incidence of MACE for each score group (low, intermediate and high risk)

using mHS.

Methods

This is an observational prospective monocentric study, conducted at the ED of the Sant'Orsola University Hospital in Bologna, Italy. We enrolled 1147 consecutive patients

admitted for non-traumatic chest pain from November 2019 to January 2020. The main exclusion criteria were: presence of ST-segment elevation on the ECG; age under 18;

patients who left the ED before medical evaluation or denied their consent; lack of ECG or troponin assessment due to medical decision. For each patient, the mHS was calculated at the admission to the ED. The 90 days follow-up was carried out through a phone call to the patient or through data from the hospital records.

The relationship between categories and continuous values of mHS and incidence of MACEs has been evaluated by means of Fisher's Exact Test and logistic regression models,

respectively.

Results

These data are the results from the first 2 months of a 12-months study. Of 1147 identified patients, 1011 were included in the analysis after applying the exclusion

criteria. In particular, 468 were classified as low risk, 379 as intermediate risk and 164 as high risk according to the mHS. 130 patients presented a MACE during follow-up: 4

(0.85%) in the low risk group, 42 in the intermediate risk and 84 high risk. There was a significant difference between the number of MACEs for each group ($p < 0.0001$),

confirming the efficacy of the mHS to stratify the patients in the 3 risk groups. The Analysis of the continuous value of mHS showed that for each higher point of the score there

was a two fold increase risk of MACE (OR 2.24; 95% C.I. 1.95–2.55).

Discussion & Conclusion

According to literature, the HEART score is considered as one of the most reliable stratification scoring systems, especially when combined with hs-Tn. Notably, acute coronary

syndrome missed rate should be less than 1% and our data show promising results (0.85%). The data presented here seem to confirm the excellent

validity of this scoring system in ruling-out patients at low risk for MACE arriving in the ED for chest pain. We are expecting to corroborate them at the end of 12-months study.

Trial Registration / Funding Information (only) :

Study approved by ethics committee as "Heart_Hst_2019" with registration number 480/2019/Oss/AOUBo. This study did not receive any specific funding. This study contemplate informed consent.

#23106 : Clinical case and simulation based - evaluation, ideal assessment for medical students?

Authors:

Dumitru Şutoi (1), Romeo Theodor Stoianov (1), Cosmin Trebuian (2), Cosmin Librimir (3), Adina Maria Mârza (3), Ovidiu Alexandru Mederle (4)

1. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania
2. Emergency Department, University of Medicine and Pharmacy ”Victor Babeş” from Timișoara, Timisoara, Romania
3. Emergency Department, University of Medicine and Pharmacy ”Victor Babeş” from Timișoara, Timisoara, Romania
4. Emergency Department, University of Medicine and Pharmacy ”Victor Babeş” from Timișoara, Timisoars, Romania

Keywords: medical education, clinical case assessment, e-learning, simulation-based medical education, modern assessment.

Abstract :**Backgrounds:**

We all know the importance of using according evaluation to asses straight thinking of students. The most important universities of medicine are using assessments based on clinical cases and medical simulation.

Despite of the prestige and performance of University of Medicine and Pharmacy „Victor Babeş” from Timișoara, many disciplines are assessing students using methods that evaluate the storage capacity more than clinical thinking.

The level of professional preparation of medical students who graduated the faculty of medicine from Western Europe and America is higher than Eastern Europe. One of the reasons is modern assessment based on clinical cases and medical simulation.

Methods:

Because of this fact, we designed a retrospective monocentric study which include students who took the graduation exam at Emergency Medicine discipline from University of Medicine and Pharmacy „Victor Babeş” from Timișoara between 2016 and 2020. In 2018, we implemented a clinical case and simulation-based assessment.

In period 2016 – 2018, we included in this trial 103 students which has been assessed with an evaluation based on theoretical questions. On the other hand, 2018 – 2020 period involves in this survey 128 students, which has been assessed by a clinical case and simulation-based evaluation.

Results:

Firstly, we wish to discover the advantages and disadvantages of these methods in the balance of classic assessment methods. Secondly, we want to compare marks obtained in the last three semesters with the results that the students have obtained before the changing mentioned above.

Discussion & Conclusions:

Not least, an important part of our study is to quantify the level of motivation and

satisfaction, the students opinion of these methods and the impact of clinical cases and medical simulant assessment after the Emergency medicine graduation in professional development regardless the specialty that they want to follow.

#23107 : Predictive factors for brain injury among patients attending in a hospital emergency department for seizures.

Authors:

Ana Ramos Rodríguez (1), Ana Sánchez Coalla (1), Alberto Correas Galán (1), Beatriz Torres Blanco (1), Raúl López Izquierdo (1), María José Garea García-Malvar (2), Verónica García Ramos (3), Cristina Sal Redondo (3), Jorge Gayete Cabrera (1), Olga Fernández Arconada (2), Pedro Castaño Cambor (1), Jesús Álvarez Manzanares (1), Elisa Alba Ingelmo Astorga (1), Violeta Esmeralda García Vesga (1), Jesús Ángel Moche Loeri (1), Marta Moya De la Calle (1), Judit Fraile Simón (1), Nieves Sobradillo Castrodeza (1), Susana Sánchez Ramón (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain
2. Neurology, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: Brain injury, seizure, comorbidity

Abstract :

Introducción: Las atención médica una atención médica de emergencia frecuente para la relación críticamente del tiempo en cualquier edad de la vida, consógeno en niños y adultos mayores de 60 años. En los adultos jóvenes mayor de la neoplasia avanzada y dada la alta estructural del sistema central (accidentes cerebrovasculares, demencias, neoplásicos, tuceles cerebrales) de las pruebas por las imágenes y de papel para el enfoque en el Departamento de Emergencias, siempre que se indica el caso de una epiléptica epiléptica epiléptica epiléptica epiléptica epíptica para la epipilpilpilótica para la epipilpilótica parala. En el Departamento de Urgencias, está disponible el cito cerebral (TC), que es para el diagnóstico diferencial de síntomas neurológicos inflamas a los ingresos o etiología vascular como el accidente cerebrovascular, ambos de los cuales son las emergencias más más y razones para el ingreso a Neurología.

Material y métodos: Estudio descriptretrospectivo. Alcance: HED. Análisis de pacientes mayores de 18 años desde enero de 2018 hasta julio de 2019 que asisten a una HED para las consultas y se les ha pedido una canalización tono. Variables: Dependiente variable: lesión tumoral/vascular aguda. Variables independientes: Edad. Sexo. Hipertensión arterial. Diabetes Mellitus. Epiléptico conocido. Día de la semana: Lunes-Viernes, fin de semana. Modo de transporte: servicio de emergencias extrahospitalarias o no. Lugar de residencia: urbano, rural. Nivel de triaje. Tipo de convulsión: generalizado/estado, otros. Charlson Index (CIh). Hipertensión (HTA). Diabetes Mellitus (DM). Oxígeno identificador másto. Tipo de convulsión evidenciada durante la estancia de la HED. Análisis valor, variables cuaantitativa se comparan usando la cuadrada de Chi, prueba cualitativa con student t. Análisis multivariante mediante logística regresión. Software: SPSS 24.0, $p \leq 0,05$. IC95%.

Objetivo: Estudiar los factores pvertifistas asociados con la lesión cerebral.

Resultados: N: 78. Medios de edad: 50,0 (17,83). Sexo: Masculino: 65,7%. Edad media y sexo. Masculino: 54,2 (20,9) años, mujer: 48,5 (15,8) años ($p > 0,05$). Tumor/lesión vascular aguda: 10 (13%). Edad y lesión: normal: 62,6 (17,8), lesión: 62,6 (14,6) años ($p < 0,05$). Género: Masculino: 11,8%, Femenino: 15,4% ($p > 0,05$). Día de la semana: Lunes-Viernes: 12,7%. Fin de semana: 13,6% ($p > 0,05$). Medios de transporte: emergencias extrahospitalarias: 14,3%, 8,35 ($p > 0,05$). Lugar de residencia: Urbano 16,7%. Rural: 0,0% ($p > 0,05$). HTA: Sin HTA: 5,3%, HTA: 28,0% ($p > 0,05$). DM: Sin DM: 12,5%, DM: 18,2% ($p > 0,05$). Nivel de triaje: I: 2,5%, II-III: 12,6% ($P > 0,05$). Epilepsia conocida: No: 13,6%. Sí: 12,5% ($P > 0,05$). Oxígeno adicional: No: 9,8%. Sí: 33,3% ($P > 0,05$). Tipo de convulsión: generalizada: 9,1%. Otros: 22,7% ($p > 0,05$). Incautación evidenciada en ED: No: 13,3%. Sí: 11,8% ($p > 0,05$). I(Ch): Nulo-bajo: 4%. Alto: 30,8% ($p < 0,05$). Análisis multivariado: Lesión tumoral/vascular aguda: OR-14.411 (95%: 1.137 - 182.588). Otras variables: Ox-ígeno, edad y BP: diferencias no significativas.

Conclusiones: El análisis multi mostró sólo una asociación estadísticamente significativa para un alto índice de comorbilidad de Charlson, demostrando ser un predictor de lesión tumoral/vascular aguda, todas las variables de más s analizadas no son significativas.

Authors:

Mihail Pestereanu (1), Boris Golovin (2), Tatiana Bivic (3), Natalia Catanoi (4), Ala Rabovila (4)

1. Research and Implementation, National Centre of Prehospital Emergency Medicine, Chisinau, Moldova, Republic of
2. Director, National Centre of Prehospital Emergency Medicine, Chisinau, Moldova, Republic of
3. Deputy Medical Director, National Centre of Prehospital Emergency Medicine, Chisinau, Moldova, Republic of
4. Medical Expert, Research and Implementation, National Centre of Prehospital Emergency Medicine, Chisinau, Moldova, Republic of

Keywords: Prehospital, Emergency, Pneumothorax, Hemothorax, Research

Abstract :**Introduction:**

Prehospital Emergency Medical Service (PEMS) in Republic of Moldova is a critical component integrated within the healthcare system of Republic of Moldova and provides Emergency Medical Care at prehospital stage to the population for the entire territory of the country.

Materials and methods:

The Research and Implementation Service studied the situation, problems, achievements, development objectives and challenges of the PEMS of the Republic of Moldova.

Results:

On October 1, 2015, PEMS was reorganized into the National Center of Prehospital Emergency Medicine (NCPPEM) as a legal entity, and represent a public medical institution of strategic importance, directly subordinated to the Ministry of Health, Labor and Social Protection (MHLSP) in Republic of Moldova. The reorganization into a unified System of Emergency Care (NCPPEM), previously separated in 5 legal entities, conducted to: significant improvement of the institutional management, their vertical and horizontal coordination. Was reduced the number of management positions. The eliminating of the conditional boundaries between the served territory of EMS subdivisions and the opening of the new EMS Points in rural area, led to the improving of access to the emergency care of population and minimizing the prehospital time. Were created new departments: Medical Audit, line control and quality assurance Department; Research and Implementation Service; Direction of External Relations, Projects and Investments etc. All ambulances were equipped with GPS, which conducted to increasing of the time efficiency and essential fuel saving. Implementation of ATLS10, according from it, from „ATLS®Update 2019. Management and Applications for Adults and Special Populations”, Galvagno Jr. and from Chapter 23 „Thoracic Trauma: Evaluation and Decision Making”, Stella R. Smith, in Emergency Surgery, edited by Adam Brooks©2010: placement of a smaller 28F to 32F chest tube for any acute hemothorax, or placing the large, over-the-needle catheter (36 French) for pneumothorax at the fifth interspace, to the anterior axillary line upwards and anteriorly for a suspected pneumothorax, downwards and posteriorly for a suspected hemothorax, ensuring at least 10 cm of tubing is intrapleural. According to literature and from our medical experience, in Hypertensive Crises, inclusive Hypertensive Encephalopathy, if there are no contraindications - an intravenous dose of

MgSO₄ of 1,0 (1,25) – 2,5 – 5,0 g, slow, over 5 – 10 – 15 minutes, in association with standard antihypertensive treatment, is recommended.

Conclusions:

The future specific priorities of NCPem: Development of the technical-material basis of the institution. Optimization of financial resources for Prehospital EMS. Improving the working conditions of employees by performing renovation of existing and construction of new EMS subdivisions. Endowment with new ambulances and modern equipment. Implementation of advanced medical technologies and development of telemedicine. Development of scientific research in the field of emergency medical care with implementation in practice of beneficial results. Development of the National emergency medical training Center based on the European modern educational and training programs in emergency medicine, on the international first-aid curricula for the medical and non-medical professionals. Implementation and development of volunteering in EMS. Development of the collaboration between emergency care practitioners of NCPem, European Community and other countries.

#23109 : Variation of the myocardial contractility in response to the administration of norepinephrine during septic shock.

Authors:

Elisa Capretti (1), Anna De Paris (1), Adriana Gianni (1), Anna Marchesini (2), Federico D'Argenzio (1), Michele Montuori (1), Giuseppe Giannazzo (3), Peiman Nazerian (3), Francesca Innocenti (1), Riccardo Pini (1)

1. High-Dependency Unit, Department of Clinical and Experimental Medicine, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy

2. Emergency Department, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy

3. Emergency Department, Careggi University Hospital, Firenze, Italy

Keywords: Septic shock, norepinephrine, myocardial contractility

Abstract :

Background: This prospective observational study investigated the effect of the early administration of norepinephrine on cardiac performance in patients with septic shock.

Methods: 14 patients with septic shock were enrolled since January 2019 to January 2020 in the Emergency Department of the Careggi University Hospital. Patients needing vasopressors to maintain a mean arterial pressure (MAP) ≥ 65 mmHg after volume replacement were enrolled in the study. Norepinephrine was initially infused at a dose of $0.1 \mu\text{g}/\text{Kg}/\text{min}$ and was increased by the same value every 5' until a $\text{MAP} \geq 65$ mmHg was obtained. A complete transthoracic echocardiographic examination was performed before starting the norepinephrine infusion (T0), every 10 minutes, when the patient reached the pressure target (T-fin) and after one hour (T-1h).

Results: the study population included 14 patients, mean age 75 ± 14 years, 43% male gender, upon admission SOFA score 5.1 ± 1.9 . From T0 to T-fin, we observed a significant improvement ($p < 0.050$) of the systolic function in terms of left ventricular ejection fraction (LV EF) [mean (sd): from 50(18) to 56(16) %], LV global longitudinal strain (GLS) [from -12.4(3.0) to -14.0(4.1) %] and TAPSE [from 15(5) to 17(6) mm]. We did not observe significant changes of the diastolic function. The improvement of these parameters was maintained at T-1h.. Based on LV GLS, 11 patients improved their LV systolic function during NA infusion, while in 3 it worsened. We observed that patients who did not improve during NA infusion and those who did had a similar prevalence of a known history of LV systolic dysfunction (33 vs 36%), an equivalent LV EF ($42 \pm 0.5\%$ vs $52 \pm 20\%$), LV GLS (-13.2 ± 1.7 vs -12.2 ± 3.3) and TAPSE (19 ± 3 vs 11 ± 5 mm, $p = \text{NS}$ for all). Day-7 mortality rate was 33% in patients with and 9% in patients without improvement of LV systolic function.

Conclusion: in most patients, the early administration of norepinephrine for the treatment of septic shock determined an improvement in left and right ventricular systolic function, which was maintained after one hour of treatment. The same improvement in the above parameters was present in patients with baseline systolic dysfunction too. The increase of the ventricular preload, alongside a positive inotropic direct effect of norepinephrine due to the beta-receptor stimulation, determined the improvement and prevailed on the increase of the afterload.

Trial Registration / Funding Information (only) :

Not applicable

#23110 : Cannabinoid hyperemesis syndrome – retrospective audit of prevalence of probable and possible cases presenting at our ED during a 12 month period**Authors:**

Charles Lamourere (1), Hanna Ovaska (1), Alexandre De Saint Andrieu (1), Mehdi Khellaf (1)

1. SAU CHU Henri Mondor, APHP, Creteil, France

Keywords: Cannabinoid hyperemesis syndrome, prevalence, presentation

Abstract :**Background**

Novel Psychoactive Substances emerge on the market in the early 2000 and has been exploding ever since. The synthetic cannabinoids represent the largest group of substances monitored by EU Early Warning System and even though the European surveys indicate lower prevalence levels on the use in Europe than in US, our clinical feeling is that the use is getting more common. The first case report of Cannabinoid hyperemesis syndrome (CHS) was reported from Australia (Allen JH, Gut 2004;53:1566-1570) and first synthetic cannabinoid molecule JWH-018 was identified by German and Austrian forensic investigators in 2008 (Auwärter V; J Mass Spectrom 2009;44:832-837). Since then there have been a total of 169 synthetic cannabinoids notified to the EMCDDA as of 12/2016 (EMCDDA Perspectives on Drugs – Synthetic Cannabinoids in Europe). PubMed research done in 12/2019 identified 170 publications regarding Cannabinoid Hyperemesis Syndrome (CHS) of which 33 were published during 2019. This is a retrospective electronic patient record (EPR) audit in aim to try to identify the probable and possible CHS presenting in our service, the characteristics of their clinical presentation and the management.

Methods

This is a retrospective audit on the prevalence of CHS in a French Emergency Department during a 12 month period. ICD codes F12.0-12.9 Cannabis related disorders; R10 Abdominal pain, and R11 Nausea and vomiting were included in the study. 2756 consultations of 56920 were included in the audit (4.8% of the consultations), where 116 cases that corresponded the features prescribed by Sorensen et al (J Med Tox 2017; 13:71-87) for diagnostic characteristics of CHS with history of cannabis use; abdominal pain; recurrent episodes of severe nausea and vomiting; hot baths/showers provide symptom relief; failure to respond on standard antiemetic treatment; resolution of symptoms with cannabis cessation; male and age

Results

70 patients accounted for the 116 consultations of with 17 patients had multiple consultations (58 consultations). 7 patients had 2 consultations/12 months; 3 patients with 3 consultations/12 months; 4 patients with 4 consultations/12months, 1 patient with 5 consultations/12 months; 1 patient with 6 consultations/12months, 1 patient with 8 consultations in 12months.

74% were males, and 88% of frequent attending patients were males. The mean age was 28.56 (+ /- 6,9).

92% (107 consultations) were discharged after AE treatment or short admission at Clinical Decision Unit with a LOT mean 6:32 (+ /- 3:39). 9 patients (8%) were admitted to inpatient ward to continue the medical treatment.

Cannabis use was documented in 75% of the EPR studied and quantified in 23%.

Conclusions

Cannabinoid hyperemesis syndrome should not be forgotten as a differential diagnosis in young patients presenting with nausea and important vomiting in non-contagious context. Remember the importance of interviewing and documenting patient's drug habits as this may guide you in your diagnostic decision making.

#23111 : Cannabinoid hyperemesis syndrome – retrospective audit of prevalence of probable and possible cases presenting at our AE during a 12 months period: Presentation at ED**Authors:**

Charles Lamourere (1), Hanna Ovaska (1), Alexandre De Saint Andrieu (1), Mehdi Khellaf (1)

1. SAU CHU Henri Mondor, APHP, Creteil, France

Keywords: Cannabis Hyperemesis syndrome, presentation, management, investigations

Abstract :

Novel Psychoactive Substances emerge on the market in the early 2000 and has been exploding ever since. The synthetic cannabinoids represent the largest group of substances monitored by EU Early Warning System and even though the European surveys indicate lower prevalence levels on the use in Europe than in US, our clinical feeling is that the use is getting more common. The first case report of Cannabinoid hyperemesis syndrome (CHS) was reported from Australia (Allen JH, Gut 2004;53:1566-1570) and first synthetic cannabinoid molecule JWH-018 was identified by German and Austrian forensic investigators in 2008 (Auwärter V; J Mass Spectrom 2009;44:832-837). Since then there have been a total of 169 synthetic cannabinoids notified to the EMCDDA as of 12/2016 (EMCDDA Perspectives on Drugs – Synthetic Cannabinoids in Europe). This is a retrospective electronic patient record (EPR) audit in aim to try to identify the probable and possible CHS presenting in our service, the characteristics of their clinical presentation and the management.

Methods

This is a retrospective audit on the prevalence of CHS in a French ED during a 12 month period. ICD codes F12.0-12.9 cannabis related disorders; R10 Abdominal pain, and R11 Nausea and vomiting were included in the study. 2756 consultations of 56920 were included in the audit (4.8% of the consultations); 116 cases that corresponded the features prescribed by Sorensen et al for diagnostic characteristics of CHS were identified. This is a sub study regarding the characteristic in vital signs and biomarkers and complementary investigations done during their admission at ED.

Results

At their arrival the vital signs recorded amongst the population seeking for suspected CHS were: GCS 15+/- 0, Temperature 36.68 ° C +/- 0.547 ° C, Systolic blood pressure (BP) 131.98 mmHg +/- 20, diastolic BP 79.84mmHg +/- 18.38, Heart rate 98.8 /min +/- 1.09 , Respiratory rate 18.5 /min +/- 9, Capillary glycaemia 6.38 mmol +/- 1.624, VAS 6.27/10 +/- 2.1.

Blood works were done in 80% of cases. Abnormal results recorded were : leukocytosis >10 G in 64.5% ; Hb > 17g in 6%; minor platelet abnormality 4%; Minor hypernatremia 11.8%; hypokalemia 16.1%; Minor metabolic acidosis 10.7 % with CO₂ < 22 ; minor metabolic alkalosis 8.6% with CO₂ > 29; Renal impairment with Creatinine > 106µmol in 13% of cases. CRP was analyzed in 45 patients with minor elevation in 9% (CRP 11-37). B-lipase was analyzed in 34 cases with 3 results that were slightly elevated.

Complementary investigations were done for 22 patients during the ED admission included: 6 abdominal ultrasounds, 1 Abdominal Xray, 15 CT abdomen et 2 CT head examinations, 1 oesophagoduodenoscopie.

Conclusion

CHS presentation may come with some minor abnormalities in the blood works. Importance of recognizing and recording patient's drug habits and not to forget the Cannabis Hyperemesis syndrome in young male patients seeking repeatedly for episodes of abdominal pain associated with vomiting after ruling out other diagnosis and treat accordingly.

#23112 : Technical and non-technical skills improvement during a training program based on high-fidelity simulation**Authors:**

Maria Luisa Ralli (1), Andrea Bona (1), Caterina Grifoni (1), Irene Tassinari (1), Francesca Innocenti (1), Riccardo Pini (1)

1. High-Dependency Unit, Department of Clinical and Experimental Medicine, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy

Keywords: High-fidelity simulation, crisis resource management, non technical skills

Abstract :

Aim: Emergency Medicine represents a high-risk setting where the correct application of Crisis Resource Management (CRM) principles can improve patients care. Failures in teamwork make a substantial contribution to suboptimal care and Non Technical Skills (NTS) training is increasingly employed in simulation and real world to improve patients' safety. The aim of this study was to evaluate the effectiveness of a training program with high-fidelity simulation (HFS) to improve Technical (TS) and Non-Technical skills of residents in Emergency Medicine.

Methods: For 3 consecutive years, we realized a 1-year training program for the management of critical patients based on HFS. At the beginning of the training program, all participants received a presentation of CRM principles. Each session covered a different topic in Emergency Medicine Curriculum. Every year, four teams composed of 6-8 residents participated to 6 sessions; during each session, every team performed 4 scenarios. A trained observer rated TS and NTS at the end of each scenario. TS were measured as the proportion of completed tasks in the following areas: airways, breathing, circulation, disability and exposure (ABCDE) assessment and management, completion of anamnesis based on AMPLE (allergy, medications, previous illness, last meal and event) scheme, diagnostic and therapeutic assessment. In the scenarios which included a cardiac arrest, the completion of the critical actions of the algorithms (ventilations/compressions ratio, administration of the correct medications, timely defibrillations, respect of time intervals) was evaluated. NTS were rated by mean of the Clinical Teamwork Scale (CTS).

Results: among the TS, the assessment of ABCDE (first session 2.6 ± 1.1 , last session 4.4 ± 1.2 out of 5 points, $p < 0.001$), management of ABCDE (first session 2.8 ± 1.2 , last session 3.5 ± 1.6 out of 5 point, $p = 0.010$), completion of therapeutic tasks (first session $39 \pm 22\%$, last session $76 \pm 34\%$ out of 100% of the expected tasks, $p < 0.001$) and the management of cardiac arrest (first session $49 \pm 34\%$, last session $81 \pm 36\%$ out of 100% in 11 sessions, $p = 0.013$) significantly improved. The completion of diagnostic (first session $57 \pm 19\%$, second to last session $63 \pm 20\%$, last session $47 \pm 24\%$ out of 100% of the expected tasks, $p = 0.050$) basically improved. The AMPLE assessment was already good at the beginning of the training and the improvement was not significant (first session 4.1 ± 1.7 , last session 4.5 ± 1.2 out of 5, $p = 0.30$). Overall CTS score (first session 61 ± 17 , last session 84 ± 16 , $p < 0.001$) as well as Communication (first session 13.7 ± 3.6 , last session 18.7 ± 3.5 , $p < 0.001$), Situational Awareness (first session 5.3 ± 1.8 , last session 6.4 ± 1.4 , $p = 0.012$) and Role Responsibility subscores (first session 9.7 ± 2.8 , last session 12.1 ± 3.7 , $p < 0.001$) increased significantly through the sessions.

Conclusions: High-fidelity simulation has proven to be an effective instrument to improve TS and NTS among Emergency Medicine residents. Effectiveness on the TS improvement was significant, despite the fact that every session covered a different topic and required different knowledges. This finding supports the value of HFS as a tool to develop a correct method to approach the critical patient.

Trial Registration / Funding Information (only) :

Not applicable

#23113 : Cannabinoid hyperemesis syndrome – retrospective audit of prevalence of probable and possible cases presenting at our AE during a 12 months period: Management at ED**Authors:**

Hanna Ovaska (1), Charles Lamourere (1), Alexandre De Saint Andrieu (1), Mehdi Khellaf (1)

1. SAU CHU Henri Mondor, APHP, Creteil, France

Keywords: Cannabinoid hyperemesis syndrome, management

Abstract :**Background**

Novel Psychoactive Substances emerge on the market in the early 2000 and has been exploding ever since. The synthetic cannabinoids represent the largest group of substances monitored by EU Early Warning System and even though the European surveys indicate lower prevalence levels on the use in Europe than in US, our clinical feeling is that the use is getting more common. The first case report of Cannabinoid hyperemesis syndrome (CHS) was reported from Australia (Allen JH, Gut 2004;53:1566-1570). CHS is a clinical challenge to manage with various management strategies proposed in recent publications.

This is a retrospective electronic patient record (EPR) audit in aim to try to identify the probable and possible CHS presenting in our service, the characteristics of their clinical presentation and the management.

Methods

This is a retrospective audit on the prevalence of CHS in a French Emergency Department during a 12 month period. ICD codes F12.0-12.9 cannabis related disorders; R10 Abdominal pain, and R11 Nausea and vomiting were included in the study. 2756 consultations of 56920 were included in the audit (4.8% of the consultations), 116 cases that corresponded the features prescribed by Sorensen et al (J Med Tox 2017; 13:71-87) for diagnostic characteristics of CHS with history of cannabis use; abdominal pain; recurrent episodes of severe nausea and vomiting; hot baths/showers provide symptom relief; failure to respond on standard antiemetic treatment; resolution of symptoms with cannabis cessation; male and age

Results

Main molecules used in treatment : metoclopramide 78%, antispasmodic phloroglucinol 47%; zophren 14%; benzodiazepines 14%; neuroleptics 6%, capsaicin patch 2%, hot showers 23%.

Combination of metoclopramide/ phloroglucinol was used in 43% with LOT 7:03 +/- 3:54 h until discharge from ED. Benzodiazepines were added to this treatment in 14% cases with LOT 8:46 +/- 5:02. Neuroleptic treatment, mainly droleptal, resulted in a LOT of 5:53 +/- 3.01. Hot showers were prescribed in 23% to complete the medical treatment and resulted in LOT of 8:28 +/- 5:52 h. Topical capsaicin resulted in LOT 7:03 +/- 0:03, but the patients suffered from secondary effects and preferred to stop the treatment (French formulation patch with *capsaicin 8 %*).

Conclusions

CHS is a complicated condition to diagnose and needs often multimodal pharmaceutical managing combined with hot showers to get the best symptom soothing. In our population the topical capsaicin was not well tolerated and the French preparation has higher concentration than the once reported in topical use in US (0.025%-0.075%). More research should be done regarding the optimal management of CHS to improve the treatment and increase patient awareness of the condition.

#23114 : Efficacy and safety of high-flow oxygen therapy in children with severe asthma exacerbation in the emergency department

Authors:

Ali Yurtseven (1), Caner Turan (2), Halit Işık (1), Eylem Ulas Saz (1)

1. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF EMERGENCY MEDICINE, Izmir, Turkey

2. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF EMERGENCY MEDICINE, Izmir, Turkey

Keywords: Emergency department, High flow nasal cannula, Asthma

Abstract :

Background and Objectives: Asthma, that is the most common chronic childhood disease, causes millions emergency department (ED) visits around the world. A significant portion of asthma patients may have severe exacerbation and some of them do not respond to conventional treatments. In recent years, high-flow oxygen therapy (HFOT) has become popular non-invasive respiratory support modality in all pediatric settings. However, there is limited data about its use in children with severe asthma exacerbation in the ED. In this study, we aimed to assess whether the use of HFOT is associated with reduced respiratory distress among children with severe asthma exacerbation (SAE) presenting to the ED.

Study design: We performed a prospective observational study of patients with SAE admitted to a tertiary children's hospital pediatric ED and received HFOT within 3 years study period (January 2017 - December 2019). Patients with a pulmonary index score (PIS) ≥ 12 or oxygen saturation $< 93\%$ despite initial treatment (salbutamol/ipratropium bromide and corticosteroids) were included. Baseline demographic and clinical data, as well as respiratory variables at baseline and various times after HFOTf initiation during 24 hours, were recorded. The primary outcome was accepted as any decrease in PIS within first 2 hours. Secondary outcomes covered a decrease of respiratory rate (RR), heart rate (HR), PIS, rise of peripheral capillary oxygen saturation (SpO₂).

Results: During the study period, 65 patients were included in the final analysis. The mean age was 4.2 ± 2.3 years (2-16), and 58.5% (n=38) was male. Numerical drop in PIS was observed in most patients (n=56, 86.2%) at the 2nd hour of the therapy, of whom 44 weaned and 12 continued to receive HFOT. Remain 9 (13.8%) patients were admitted to pediatric intensive care unit, 3 (4.6%) were intubated and 6 (9.2%) placed on BIPAP. The mean initial PIS and RR values were significantly higher in non-responders group ($p=0.002$ and $p=0.038$). At the 2nd hour, the numerical drop in PIS ($p<0.001$), RR ($p<0.001$), HR ($p<0.001$), and the rise of SpO₂ ($p<0.001$) were statistically significant when compared with the beginning. No complication was reported due to HFOT.

Conclusion: This study showed that HFOT therapy was clinically effective, safe and provided an early effect in majority of the patients with SAE. Patients with more severe respiratory distress responded less to HFOT. Multicenter randomized controlled larger studies are needed to assess the impact of HFOT on SAE.

Trial Registration / Funding Information (only) :

None

#23115 : Pre-hospital Critical Care in Medical Emergencies: Does it Impact Mortality**Authors:**

Salman Naeem (1), Racheal Underwood (2), Jonathan Leung (3)

1. , Dr, Maidstone, United Kingdom

2. , Dr, Canterbury, United Kingdom

3. , Dr, Ashford, United Kingdom

Keywords: Pre-hospital, Critical care, Cardiac Arrest

Abstract :

BACKGROUND:

There is limited data on the outcome of non-traumatic emergencies transferred by air -ambulance. This retrospective survey was done to evaluate the incidence mortality in patients brought to William Harvey Hospital emergency department by Kent, Surry and Sussex (KSS)air ambulance.

Methods;

A retrospective review on the electronic database was performed on patients transferred by the KSS air-ambulance team from September, 2017 to February, 2019. All patients transferred by KSS air-ambulance team and whose records were available were included. Demographic information, pre-hospital documentation, presenting complaint, data on intubation and transfer mode, in-hospital mortality and final diagnosis was recorded and analysed. Percentage was calculated for nominal data and average was calculated for quantitative data.

RESULTS:

A total of 54 patients were included. Of those 69% patients were male,90% were adults. All the patients were brought from Kent area. A majority (60%) presented as out of hospital cardiac arrest (OHCA), 22% as collapse, 7% as anaphylaxis and 3% as road traffic collision. 69% were intubated out of hospital and 34% required vasopressors out of hospital to maintain perfusion. In total 64% patient survived to discharge. Out of the 31% patients with OHCA 64% had a cardiogenic cause for arrest. 2/3rds had a thrombo-embolic cause and 67% of them survived to discharge. There was no statistical significance of any variable with mortality.

CONCLUSIONS: Patients brought in by air-ambulance were critically ill. They were predominantly adult males and had medical cause for their illness. Although most of them had a out of hospital cardiac/ respiratory arrest, however about two third of them survived to be discharged from the hospital.

Trial Registration / Funding Information (only) :

Not applied

#23117 : Cytomegalovirus encephalitis in an immunocompetent child

Authors:

Aylin Tuğba Arslan (1), Ali Yurtseven (2), Caner Turan (3), Halit Işık (2), Zümrüt Bal (1), Eylem Ulas Saz (2)

1. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS , Izmir, Turkey

2. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF EMERGENCY MEDICINE, Izmir, Turkey

3. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF EMERGENCY MEDICINE, Izmir, Turkey

Keywords: Child, Human cytomegalovirus encephalitis, immunocompetent host

Abstract :

Background and Objectives: Cytomegalovirus (CMV) encephalitis, that causes morbidity and mortality, is mostly detected in immunocompromised patients such as those with HIV/AIDS, transplant recipients on immunosuppressive therapy. Therefore, little attention is paid to immunocompetent patients for CMV encephalitis. However, CMV encephalitis may also occur in immunocompetent patients but this is rare. Only a few cases have been reported in immunocompetent children until now. In this report, we present an immunocompetent child with CMV encephalitis.

Case report: A 6-year-old boy presented to the emergency department (ED) with behavioural changes, visual hallucinations, headache, fever and incontinence. It was reported that, these complaints started 4 days ago. There was no history of previous illness, substance abuse, head trauma or recent travel. Immunisations were up to date according to the national vaccination calendar. Family history was irrelevant. Upon arrival to the ED, he was drowsy with Glasgow coma scale (GCS) 13. His body temperature, pulse and blood pressure were 37.7°C, 150/min and 100/55 mm Hg, respectively. His pupils reacted normally to light and ocular movements were normal. No facial asymmetry or motor weakness was noted. There were no abnormal movements or postures. Reflexes were normal and Babinski was negative. Nuchal rigidity, Kernig and Brudzinski signs were positive. He had an inflamed pharynx. The rest of his physical examination was normal. Laboratory investigations, included a white blood cell count, hemoglobin, platelets, C reactive protein, serum creatinine, urea, aspartat aminotransferase, alanine aminotransferase, total bilirubin, ammonia and blood gas, were normal range. Cerebrospinal fluid (CSF) revealed leucocytes 4/mm³, protein 22 mg/dl (15–45 mg/dl) and glucose 66 mg/dl (40–70 mg/dl). Gram stain and cultural exam of CSF were negative. PCR for detection of viral nucleic acid in the CSF was positive for CMV DNA. The patient was hospitalized and started to treat with intravenous ganciclovir. On follow-up at 4 weeks, she was doing well, with no behavioural disturbances and a normal neurological examination.

Conclusion: It should be kept in mind that, CMV encephalitis may develop not only in immunocompromised children, but also in immunocompetent children.

Trial Registration / Funding Information (only) :

none

#23118 : Intracranial hemorrhage in an infant due to severe factor V deficiency

Authors:

Aslı Güzel (1), Ali Yurtseven (2), pınar yazıcı (3), Halit Işık (2), bulent karapinar (3), Eylem Ulas Saz (2)

1. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS , Izmir, Turkey
2. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF EMERGENCY MEDICINE, Izmir, Turkey
3. EGE UNIVERSITY SCHOOL OF MEDICINE , DEPARTMENT OF PEDIATRICS DIVISION OF CRITICAL CARE MEDICINE, Izmir, Turkey

Keywords: Factor V Deficiency, intracranial hemorrhage, infant

Abstract :

Background and Objectives: Coagulation factor V (FV), that has both procoagulant and anticoagulant functions, plays a role in the blood coagulation cascade. FV deficiency is a rare coagulation disorder with an estimated incidence of 1 in 1,000,000. Affected patients become symptomatic in early childhood with spontaneous or post-traumatic bleeding complications. In these patients, it can be observed variable spectrum of bleeding manifestations ranging from mucosa and soft tissue bleeding (such as epistaxis and hemarthroses) to life-threatening hemorrhages. In this report, it was presented an infant with intracranial hemorrhage due to severe factor V deficiency.

Case report: A 8-month-old male admitted to the emergency department (ED) with pallor, fever, decreased feeding and lethargy for 2 days. He had also a seizure that lasted about within 5 minutes, 6 hours before the presentation. There was no history of previous illness or head trauma. There was no family history of bleeding diathesis. The mother had a normal pregnancy with full antenatal care. 1 mg of Vitamin K was given intramuscularly after the delivery. Upon arrival to the ED, he was irritable and had severe pallor. His body temperature, pulse, blood pressure and oxygen saturation were 38.2 oC, 170/min, 86/48 mm Hg and 99%, respectively. His pupils reacted normally to light and ocular movements were normal. No evidence of raised intracranial tension such as hypertension, bradycardia, hypoventilation or a full fontanelle. Laboratory assessment revealed the hemoglobin of 6.4 mg/dL, platelet count of 357000/mm³, international normalized ratio (INR) 4.2, Prothrombin time (PT) 42, activated partial thromboplastin time (APTT) 98. Brain CT showed 5.5 x6 centimeter intracranial hemorrhage in left frontal area with right shift. While all the other factor levels were in the normal range, his Factor V levels were less than 1%confirming a diagnosis of severe FV deficiency. After rapid fresh frozen plasma and erythrocyte suspension were given, the patient was operated. After intensive care follow-up, he completely recovered.

Conclusion: Although FV deficiency is rare in childhood, that should be kept in mind in patients with unexplained bleeding and be treated quickly.

Trial Registration / Funding Information (only) :

none

#23119 : Neuroprotection Bundle for intubated traumatic brain injuries (TBI) in Emergency Department.**Authors:**

Katerina Kimberley (1), Nicola Littlewood (1), Susan Daisley (1), Kevin Mcaukey (1)

1. Emergency Department, NHS GGC, Glasgow, United Kingdom

Keywords: Traumatic Brain Injuries, emergency department, neuroprotection bundle, intubated head injuries in emergency department

Abstract :**Background**

TBI is the leading cause of death and disability in children and adults ages 1 to 44. Each year about 2.5 million individuals suffer from this injury, of which 50,000 results in death. More than 80,000 of these will suffer permanent disability and undoubtedly will lead to an increase in the financial burden on health systems.

Every year Scottish hospitals on their own will see on average 150–300/100,000 per year of patients who sustained traumatic brain injuries. Out of those, third of patients will require Rapid Sequence Induction(RSI), and 65/100,000 will unfortunately die in the first year.

All these patients will be admitted through ED and given the severity and long-term consequences of brain injuries, ensuring consistent and high level of neuroprotection, is of vast importance.

Methods/Design

At the start, we performed a retrospective assessment of intubated TBIs presented to ED QEUH January 2018 –December 2018, using STAG data. Results were synthesized with a survey of clinical team who has experience in managing of intubated TBIs.

Then, an aide memoir incorporating a data capture sheet was created by the researcher after presenting the aforementioned clinical evidence, and was used after the staff group had been given refresher training in TBI management and had the document explained to them. The sheet had main 6 metrics and space to record additional information.

Prospective phase of QIP was based on Pan DO Study Act (PDSA)cycles with 6 weeks reviews, synchronized with post implementation survey of medical and nursing staff on the shopping floor.

A total of 20 patients were intubated and ventilated in ED secondary to isolated TBI from January 2018 till end of December 2018, with only 3 metrics been achieved on average. The improvement in the performance of the team during the prospective phase of the study demonstrated that capture sheets increased compliance criteria up to 5 metrics reading.

Results/Summary

The existing method of treating TBI's was underperforming consistently with no intervention to assist in correcting or improving the process.

We identified a need and successfully developed Neuroprotection Bundle for intubated TBIs. This enabled the user to follow a structured approach to care delivery without missing any stages of care.

Trial Registration / Funding Information (only) :

N/A

#23121 : Differences in Pain management for children with fractures. General and Pediatric Emergency Departments

Authors:

Maali Abu Omer (1), Gilad Chayen (2), Ron Jacob (3)

1. Pediatrics B Department, Haemek Medical Center, Afula, Israel, Afula, Israel

2. Head of Pediatric Emergency Department Haemek Medical Center, Haemek Medical Center, Afula, Israel, Afula, Israel

3. Pediatric Emergency Department, Haemek Medical Center, Afula, Israel, Afula, Israel

Keywords: emergency department (ED), general trauma ED , Pediatric ED (PED) , Pain management

Abstract :

Differences in Pain management for children with fractures. General and Pediatric Emergency Departments

Abu-Omer M¹, Gilad Chayen², Jacob R²

¹ Department of Pediatrics, HaEmek Medical Center, Afula, Israel

¹ Pediatric Emergency Department, HaEmek Medical center, Afula, Israel

Background

Children presenting to the emergency department (ED) with injuries often experience pain and distress. Pain management in the ED has been previously shown to be inconsistent and inadequate. Moreover, children with fractures are treated with less analgesia and opioids than adults with similar fractures.

We aimed to compare variations in administration of analgesia between the general trauma ED and the Pediatric ED (PED) in children presenting with long bone fractures.

Methods

This was a retrospective observational study in a regional hospital serving northeastern Israel. In our institution, up until 2017, all pediatric trauma patients used to present to the general trauma ED whereas from 2017, pediatric trauma patients presented to the PED. The study population consisted of all patients younger than 18 years presenting to the ED with long bone fractures. We compared the patients presenting to the general trauma ED between 1.3.15–31.8.16 and the patients presenting to the PED between 1.9.18–29.2.20. Primary outcome measure was the administration of analgesia (any analgesia and opioid analgesia). Secondary outcome measures were time to analgesia, time to physician assessment and length of stay in the ED.

Results

Overall, 1067 of pediatric patients with long bone injuries were evaluated. 370 presented to the PED and 697 presented to the general trauma ED. 43.5% received any analgesia in the PED compared to 5% in the general trauma ED ($P < 0.0001$). 22.4% received opioid analgesia in the PED compared to 2.9% in the general trauma ED ($P < 0.0001$). Time to analgesia administration was shorter in the PED compared to the general trauma ED (26 +/- 32 Vs 71 +/- 64 minutes +/- SD respectively; $p < 0.0001$). Time to physician assessment was shorter in the PED compared to the general trauma ED (30 +/- 35 Vs 132 +/- 1047 minutes +/- SD respectively; $p < 0.0001$). There were minor differences in total ED length of stay between the PED and the general ED (160 +/- 97 Vs 160 +/- 165 minutes +/- SD respectively; $p = 0.049$).

Conclusion

Pediatric patients with fractures are treated with more analgesia and more opioid analgesia in the Pediatric ED compared to the general ED. Time to analgesia and to physician assessment were shorter in the Pediatric ED. Overall, pediatric patients with fractures receive quicker and better pain management when presenting to the Pediatric ED although analgesia rates are still low.

#23122 : Difference of blood-brain barrier injury of rats with various thoracic cage size after cardiopulmonary resuscitation

Authors:

Yu Cao (1), Junzhao Liu (1), Sheng Ye (1), Yarong He (1), Di Hao (1), Peng Yao (1)

1. Emergency Department, West China Hospital of Sichuan University, ChengDu, China

Keywords: Blood-brain barrier;Thoracic cage size;Cardiopulmonary resuscitation;Microglia

Abstract :**Background**

Cardiac arrest (CA) is a serious threat to human life. After returning of spontaneous circulation (ROSC), the ischemia-reperfusion injury (IRI) damages the blood-brain barrier (BBB), increases its permeability and loses brain protection function, which is an important cause of subsequent brain injury. Exploring factors affecting the BBB injury after ROSC has important research value. The thoracic cage is the direct position of external chest compression, the thoracic cage size variation may affect the blood pressure during CPR according to the "thorax pump" theory. Therefore, we established a CA-CPR-ROSC rat model to explore the variation between the thoracic cage size and the severity of BBB injury. We hypothesized that the variation of thoracic cage size may cause difference of MAP level during CA-CPR-ROSC and the inflammation level after ROSC, and thus cause differences in BBB damage.

Methods

Forty male Sprague-Dawley rats were performed chest computed tomography scans to compare the thoracic cage size variation. At the 4th intercostal level, the following thoracic cage size parameters were measured in chest CT images using Mimics 17.0 software: internal transverse diameter, internal anteroposterior diameter and cross-sectional area. After CT scanning, twenty small thoracic cage male SD rats were randomly divided into small thoracic cage sham group and small thoracic cage CPR group. Similarly, 20 large thoracic cage male SD rats were randomly divided into the large thoracic cage sham group and large thoracic cage CPR group. We established CA-CPR-ROSC rat model and used fluorescence to compare the degree of EB exudation in the cerebral cortex, immunofluorescence and Western blot to compare the changes of tight junction protein occludin and claudin-5 expression; Furthermore, we compared the mean blood pressure (MAP) difference during CA-CPR-ROSC, IL-1 β and TNF- α expression, microglia activation and M1 type polarization.

Results

Compared with the small thoracic cage CPR group, the EB exudation in the large thoracic cage CPR group was significantly higher ($p < 0.05$). Compared with the small thoracic cage CPR group, the occludin and claudin-5 expression in large thoracic cage CPR group were significantly reduced ($p < 0.05$). Repeated variance analysis found that compared with the small thoracic cage CPR group, the MAP in the large thoracic cage CPR group was significantly reduced during CA-CPR-ROSC ($p < 0.05$). Compared with small thoracic cage CPR group, the IL-1 β and TNF- α expression in the large thoracic cage CPR group were higher. The microglia activation and M1 type polarization in the large thoracic cage CPR group were higher than small thoracic cage CPR group.

Conclusion

Rats with large thoracic cage size had more severe BBB damage after ROSC. The reasons might be related to lower MAP level during CPR, more inflammatory factors and release higher levels of microglial activation, M1-type polarization, in the cerebral cortex of rats with large thoracic cage size.

Trial Registration / Funding Information (only) :

The present work was supported by the Discipline Excellence Development 1-3-5 Project of West China Hospital, Sichuan University (Grant No. ZYJC18019).

#23123 : Prospective registry of use of lung point-of-care ultrasound in an algorithm to diagnose pneumonia in a Paediatric Emergency Department**Authors:**

Roser Martínez Mas (1), Yordana Acedo Alonso (1), Borja Gómez Cortés (1), Mikel Oalabarri García (1), Edurne Lorea López Gutierrez (1), Javier Benito Fernández (1)

1. Paediatric Emergency Medicine, Cruces University Hospital, Bilbao, Spain

Keywords: Paediatric, POCUS, pneumonia

Abstract :

INTRODUCTION: The use of lung point-of-care ultrasound (L-POCUS) for the diagnosis of pneumonia is worldwide extended. However, data about L-POCUS implementation in paediatric emergency departments (PED) are lacking.

OBJECTIVE: Evaluate the impact of including L-POCUS in an algorithm to diagnose pneumonia in a PED.

METHODOLOGY: Prospective registry of L-POCUS done in a PED, from February to November 2019. After all PED attendings received training in L-POCUS, we introduced an algorithm to diagnose pneumonia including L-POCUS. The algorithm included the possibility of doing a confirmatory chest x-ray (CXR) according to the attending criteria. We collected data of the outcome of those managed only with L-POCUS. The principal investigator reviewed periodically all L-POCUS, analysing the agreement with CXR, in those where both exams were done, and the agreement between the attending's interpretation and the principal investigator's interpretation of L-POCUS.

As control measures, we compared total number of CXR, return visit to PED rates, admission rates and length of stay in all patients in the PED with discharge codes of "pneumonia"/"upper respiratory tract infection", during the study period and the same period the previous year.

RESULTS: We registered 466 L-POCUS: 183 pneumonia (39,3%), 197 normal (42,3%), 86 interstitial (18,5%). We avoided use of CXR in 103 cases (22,1%), 49 pneumonia (47,6%), 44 normal (42,7%), 10 interstitial (9,7%). Of those managed without CXR, 11 patients returned to the PED, with no diagnostic errors or complications detected. The monthly average of L-POCUS was 46,6/month (24,5 L-POCUS/attending [57-4]) and the monthly rate of patients managed without CXR increased, reaching 50% the last month of the study. Globally L-POCUS had a 69,3% sensitivity, 94,5% specificity, 92,5% positive predictive value, 76% negative predictive value. Kappa coefficient was 0,77.

Compared to the previous year, there was a 35,8% decrease in the CXR use in patients investigated for pneumonia, without significant changes in return visits to PED rates, admission rates and length of stay in the PED.

CONCLUSIONS: Implementation of L-POCUS has safely decreased the CXR use in patients investigated for pneumonia, without changes in any control measures.

#23125 : Research on statistical process control chart in evaluation of the persistence of short door-to-needle times for acute ischemic stroke**Authors:**

Markku Grönroos (1), Teemu Koivistoinen (2), Ari Palomäki (3)

1. Emergency Department, Kanta-Hämeen Keskussairaala, Hämeenlinna, Finland
2. , Kanta-Hämeen Keskussairaala, Hämeenlinna, Finland
3. Medical School, Emergency Medicine, University of Tampere, Hämeenlinna, Finland

Keywords: Door-to-needle time, acute ischemic stroke, thrombolysis

Abstract :

Background

Treating acute ischemic stroke (AIS) patients with thrombolysis improves the quality of life. The faster the thrombolysis is given the better the results. In our region, Kanta-Häme in Southern Finland, the catchment population of the hospital is approximately 171 000 inhabitants. Before the introduction of emergency medicine as a specialty, managing of AIS patients varied significantly in the emergency department (ED). In 2013, we reorganized our stroke protocol with a shortening of median DNT from 54 minutes to 20 minutes for the first 12 months after the reorganization. Since then, emergency physicians are responsible of 89 % AIS patients, while the rest is managed by neurologists. Our aim was to reveal, whether the use of Statistical Process Control (SPC) Chart demonstrate persistence of improved door-to-needle time (DNT).

Methods

SPC Charts are used to analyse, whether the (industrial or medical i.a.) process is in the state of control. In the chart, the mean of measured variable is presented with the upper and lower control limits (UCL and LCL). They indicate the threshold of a controlled process and are drawn typically at three standard deviations from the mean line.

Our aim was to evaluate the capability of SPC Chart to differentiate whether the AIS process remained better after the reorganization. We collected the data of 100 consecutively thrombolysed AIS patients before and after the reorganization.

Results

Before the reorganization, the mean time of 100 patients was 59 minutes (median 53) minutes. After the reorganization the mean time of 100 patients were 22 (20) minutes. According to the SPC Chart, the process was evidently in a better control after the reorganization than before it. The clinically important UCL (i.e. mean + 3SD) was after and before the reorganization 53 and 126 minutes, respectively.

Discussion and Conclusion

For ordinary people, the use of advanced statistics is not typical. By using the SPC Chart, we can coherently bring important findings concerning processes into the light.

In this study, we used SPC Chart in order to evaluate our reorganized AIS process. DNT of thrombolysed AIS patients remained persistently in a better control after the reorganization than before it. The continuous use of SPC Charts allows a real-time monitoring of the AIS process.

**#23126 : Low Doses of Ketamine infusion in the treatment of moderate to severe acute pain in the Emergency Department:
Randomised controlled interventional trial**

Authors:

Ahmed MAHMOUDI (1), Hajer KRAIEM (2), Mohamed Ben REJEB (3), Mariem KHALDI (1), Hajer SANDID (4), Zied MEZGAR (4), Mehdi METHAMEM (1)

1. Emergency Department, Farhat Hached University Hospital, Sousse, Tunisia
2. Emergency Department, Centre hospitalier Andrée Roseman Cayenne, Cayenne, French Guyana
3. Epidemiology Department, University Hospital of Sahloul, Sousse, Tunisia
4. Emergency Department, Farhat Hached University Hospital, sousse, Tunisia

Keywords: Analgesia, Morphine, Ketamine, Emergency, Adverse effects

Abstract :

Opioid analgesics have been the analgesics of choice for the last decades in most emergency conditions, but these potent analgesics are not without negative side effects, particularly in uncontrolled scenarios, such as hypotension and hypoventilation. Currently approved as anesthetic agent, ketamine is finding new use as an off-label analgesic showing promise for severe pain control in the ED. Many studies of subanesthetic administration termed as low-dose ketamine (LDK) suggest that it provides analgesia with eventually minor adverse effects when administered in single bolus or as an adjunct to opioids. We suppose that Ketamine infusion is an alternative option which can provide the same analgesic efficacy with less adverse effects.

The aim of the trial study is to study the analgesic efficacy and side effects of intravenous infusion of two doses of ketamine versus IV bolus in the emergency settings. We performed randomized, prospective, double-blinded trial at the emergency department of Farhat Hached university Hospital in Sousse, Tunisia. A sample of patients aged 18 to 65 years with moderate to severe acute pain, were enrolled. Subjects were consented and randomized to three groups; 0.3mg/kg of ketamine through an IV push; 0.3mg/kg of ketamine over 5 minutes and 0.6mg/kg over 10 minutes. Our primary outcome was the maximum change in Numeric Rating Scale (NRS) scores and secondary outcomes were patients' satisfaction, the use of rescue analgesia (morphine) and the side effects of LDK.

59 patients were enrolled with similar demographic characteristics. The group receiving 0.3mg/kg of ketamine through an IV push appeared significantly more efficient from T45 until the end of the study. The 0.3mg/kg IV push Group patients showed a higher PRS than the other groups from 30 minutes after the beginning of the protocol until the end of the study. The use of rescue analgesia was significantly lower in the group receiving 0.3mg/kg of ketamine through an IV push compared with the other two groups. No major side effects were observed during the study. Psychomimetic events were more frequently observed in the group receiving 0.6mg/kg of ketamine over 10 minutes.

Ketamine has been effective in the management of moderate to severe acute pain, but the 0.3mg/kg IV push group has been associated with a larger decrease in NRS, a longer maintenance of analgesic effect and a less common reliance on rescue analgesia. We recommend to conduct further studies with larger samples to evaluate the efficacy and safety of the use of 0.3mg/kg of ketamine through an IV push associated or not with the same drug infusion in order to deal with moderate to severe acute pain.

#23127 : Adiponectin can alleviate BBB injury after CA-CPR-ROSC by regulating Nrf2-HO1-HMGB1 signaling pathway

Authors:

Junzhao Liu (1), TingYuan Zhou (1), Yarong He (1), Sheng Ye (1), Yu Cao (1)

1. Emergency Department, West China Hospital of Sichuan University, ChengDu, China

Keywords: Adiponectin ; Nrf2 signaling pathway ; CA-CPR-ROSC ; Blood brain barrier ;

Abstract :**Background**

For patients surviving cardiac arrest (CA), the blood-brain barrier (BBB) disruption is an important cause of long-term neurological disorder. The brain ischemia reperfusion (I/R) related inflammatory response is an important cause of BBB injury. The microglial cells become activated and polarized towards the M1 phenotype after I/R, secreted a large number of pro-inflammatory factors which can lead to injury of BBB. Nuclear factor erythroid 2 related factor 2 (Nrf2) is the key mediator of the endogenous defense system against oxidative stress. Activation of the Nrf2-HO1 signaling pathway can promote the polarization of microglia from the pro-inflammatory M1 phenotype to the anti-inflammatory M2 phenotype to reduce the inflammatory cascade. Adiponectin (APN) is a cytokine secreted by adipocytes which can reduce the expression of TNF- α and IL-6 in brain after ROSC. Therefore, we established a CA-CPR-ROSC mice model to explore whether adiponectin can regulate different phenotype polarization of microglia after ROSC. We hypothesized that adiponectin regulates polarization of microglia through the Nrf2-HO1-HMGB1 signaling pathway, thereby reducing the cerebral cortex inflammation response and attenuating BBB damage.

Methods

Twenty-five C57 BL/6 mice were randomly divided into 5 groups: sham group (n=5), CPR group (n=5), CPR + APN group (n=5), CPR + APN + DMF group (n=5), CPR + APN + ML385 group (n=5). Observing the basic status and resuscitation indicators of the mice in each group, and the mice were sacrificed 3 hours after ROSC treatment, and brain tissue was taken and stored in formaldehyde and liquid nitrogen. The expression of tight junction proteins occludin and claudin-5, IL-1 β , TNF- α , Nrf2, HO1, and HMGB1 of each group of mice were detected by Western blot and immunofluorescence. Immunofluorescence was used to detect the polarization of different phenotypes of cerebral cortex microglial cells in each group.

Results

Compared with the CPR group, the APN intervention increased occludin and claudin-5 protein expression, Nrf2 and HO-1 expression, reduced HMGB1, IL-1 β , TNF- α level, microglia activation and M1 type polarization. Compared with APN, the administration of DMF further magnified the APN effect, which increased Nrf2 and HO-1 expression, reduced HMGB1, IL-1 β , TNF- α level, microglia activation and M1 type polarization, and alleviated the BBB injury. While the ML385 intervention had the opposite effect, reduced the Nrf2 and HO-1 expression, aggravated the HMGB1, inflammation level and BBB injury.

Conclusion

Adiponectin can reduce the inflammation level and decrease the microglia activation and polarization to alleviate BBB injury after CA-CPR-ROSC by regulating Nrf2-HO1-HMGB1 signaling pathway.

Trial Registration / Funding Information (only) :

The present work was supported by the National Natural Science Foundation of China (Grant Nos. 81772037).

#23129 : Adiponectin Alleviate Inflammatory Response in BV2 Cells After OGD/R by Regulating Nrf2-HO1-HMGB1 Signaling Pathway**Authors:**

Wen Ma (1), Sheng Ye (1), Yarong He (1), Junzhao Liu (1), Songling Tang (1), Yu Cao (1)

1. Emergency Department, West China Hospital of Sichuan University, ChengDu, China

Keywords: Adiponectin ; BV2 cells ; OGD/R ; Nrf2 signaling pathway ;

Abstract :**Background**

In the process of ischemia reperfusion injury of brain after cardiac arrest, resting microglia are transformed into activated microglia. M1 phenotype microglia mediate inflammation by releasing TNF- α , IL-6, ROS, etc., while M2 phenotype microglia mainly produce anti-inflammatory factors such as IL-4, IL-10, TGF- β , etc. Current studies have found that microglia polarization is a new mechanism of cerebral ischemia-reperfusion injury, regulating microglia polarization may be a promising treatment for ischemia-reperfusion injury-related diseases. Recent studies have shown that the regulation of Nrf2 and its target genes helps to suppress microglial activation and regulate the microglial phenotype. Nrf2 activation can attenuate the polarization of M1 microglial cells under inflammatory conditions and promote the polarization of M2 phenotype microglial cells. Activated Nrf2 can induce HO-1 to protect cells from oxidative stress. Moreover, HO-1 in microglia has an anti-inflammatory effect, which can inhibit activated microglia from secreting pro-inflammatory factors. Therefore, we constructed a model of microglial glucose deprivation/reperfusion (oxygen glucose deprivation/reperfusion, OGD/R) to simulate the brain injury after cardiopulmonary resuscitation. We hypothesized that adiponectin regulates the polarization of BV2 cells after OGD/R through the Nrf2-HO1-HMGB1 signaling pathway.

Methods

An OGD/R model of BV2 cells was constructed, and the Nrf2 agonist DMF and Nrf2 inhibitor ML385 were used to intervene BV2 cells. After OGD/R, IL-1 β , TNF- α , Nrf2, HO-1, and HMGB1 were detected by Western blot, and different phenotypic polarized protein expression in BV2 cells, verify whether adiponectin regulates different phenotypic polarization of BV2 cells after OGD/R through the Nrf2 signaling pathway.

Results

After OGD/R, the CD68 protein expression was significantly higher, while the CD206 protein was lower. After the administration of ML385, the CD68 expression was more higher than APN administration, while the CD206 protein was lower. After OGD/R, IL-1 β , TNF- α , Nrf2, HO-1, HMGB1 expression was higher. APN administration increased the Nrf2, HO-1 level and reduced the IL-1 β , TNF- α , HMGB1 expression. DMF administration further magnified the APN function, which increased the Nrf2, HO-1 expression and reduced the inflammation and HMGB1 level. After the ML385 administration, we observed the opposite role of ML385 compared with DMF.

Conclusion

APN can alleviate the BV2 cell activation, polarization and inflammation release after OGD/R by Nrf2 signaling pathway.

Trial Registration / Funding Information (only) :

The present work was supported by the National Natural Science Foundation of China (Grant Nos. 81772037).

#23130 : Paroxysmal ventricular tachycardias

Authors:

Ana Ramos Rodríguez (1), Raisa Álvarez Paniagua (1), Ángela María Árevalo Pardal (1), Héctor García Pardo (2), Irene Pérez Arévalo (1), Susana Sánchez Ramón (1), Nieves Sobradillo Castrodeza (3), Víctor Muñoz Martín (1), Cintia González Santana (1), Marta Moya De la Calle (1), Raquel Talegón Martín (1), María Jaime Azuara (1), David Gómez Villarejo (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain
2. Cardiology, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: tachycardia, Atrial myxoma, Carney syndrome

Abstract :

HISTORIA CLINICA BRIEF: paciente de 52 años, sin alergias a conocido medicamentoss. Sin hábitos tóxicos. Historial médico-médico-médico: Dislipemia. Intervención quirúrgica del mixoma de vaina del nervio dérmico periférico en el archivo nasal en dos ocasiones. No hay tratamientos de heno habituales.

Ella asiste al servicio de urgencias del hospital sudando con dolor torácico que irradia la mente y el brazo izquierdo. Reportó palpitaciones autolimitadas durante 10 meses, desencadenadas por un esfuerzo moderado y programa en reposo, que se han aumentado en frecuencia y durante la duración de la semana anterior, persistiendo reposo en reposo y disnea limitación con tareas habituales. Sin otra clínica asociada.

Examen físico: Presión arterial: 99/75mmHg. Frecuencia afrecuencia: 116 latidos/minuto. Frecuencia respiratoria: 14/minuto. Saturación de oxígeno: 97%. Consciente, orientado, colaborativo. Normocolerated, normoperfused. Nada de sudando. Sin respiración eupneica accesoria. Múltiples lunares faciales y mucosa labial. Carótida isopulsaia sin soplos. Auscultación cardiopulmonar: rítmico, murmullo mitral diastólico I/VI. Conservando de murmullo. Examen neurológico, abdominal y de sensibilidadsensibilidad: anomalía.

En triaje de emergencia: taquicardia irregular QRS ancha a 200 latidos/minuto encendido. Cardioversión exitosana eléctrica: Sinus, 130 latidos/minuto, QRS estrecho con bloque de rama izquierda incompleto.

Admisión a la Unidad de Cuidados Intensivos y más tarde al Servicio de Cardiología.

ELEMENTOS DE MISLEADING: No hay heno cardiovasculares personales o familiares. Sin hábitos tóxicos o sitome. Semiología del evento coronario agudo. Empeoramiento de la incapacidad de las palpitaciones. Exploración física de Anodyne.

Pruebas complementarias: Electrocardiograma y monitorización: variaciones de pecado. Radiografía del tórax: anomalía. Tóxicos en sangre y orina: negativo. Análisis de sangre: No hay alteraciones de hemométricas, electrolitos o coagulación. Troponina sensibilidad sensibilidad de alta.

DETALLES HELPFUL: Re-historia: recuerda sin especificar episodios similares hace años en otra ciudad que no requiere cardioversión eléctrica, cediendo espontáneamente, sin clínica asociada. Antecedentes: mixoma serremón en el nervio periférico. Lentiginosis mucocutánea. Ecocardiograma: Válvula aórtica trivalente normofuncional. Masa móvil con implantación en la fosa ovalada del tabique interauricular en la aurícula izquierda, extensión a la válvula mitral. Ecogenicidad heterogénea. Resonanciardiaca:masa en la aurícula izquierda, compatible con el mixoma. Angiotocaquí computarizada: anomalía.

DIAGNOSIS DIFERENCIAL Y REAL: Síndrome coronario agudo. Síndrome de Takotsubo. Valvulopatía. Infarto pulmonar. Trombo intraauricular. Pericarditis. Cardiomiopatía. Arritmia supraventricular por vía accesoria. Alteración de la conducción del impulso eléctrico. Síndrome neuroléptico maligno. Intoxicación por drogas de abuso. Tormenta tiroidea. Feocromocitoma. Disección aórtica. Metástasis auricular por cáncerrectal (síndrome de Peutz Jeghers). Diagnóstico: Mixoma auricular. Síndrome de Carney.

¿Cuál es la educativa y/o clínica del caso? La cardioversión eléctrica es la técnica de elección en situaciones de inestabilidad hemológica o farmacológica resistencia a una taquiarritmia para volver al ritmo sinusal. Se debe realizar a tiempo y siempre hay riesgo. Debe ser realizado por personal capacitado bajo sedación y monitoreo. Handheld ultrasonido V-scan, cada vez más utilizado en el departamento de emergencias, guiando el diagnóstico, una toma de decisiones más rápida. Se destaca la gama de diagnósticos y complicaciones diferenciales de emergencia que deben consabrámayor y su enfoque sistemático. Se hace hincapié en las competencias y habilidades diagnósticas y terapéuticas que un médico de urgencias debe saber manejar.

#23131 : Prognosis of patients consulting for acute coronary syndrome: ST-elevation myocardial infarction (STEMI) by gender**Authors:**

marwene kacemi (1), hejer yaakoubi (2), arij bakir (1), lotfi boukadida (2), rym youssef (1), houda ben salah (2), asma zorgati (2), riadh boukef (2)

1. urgences sahloul, CHU sahloul, sousse, Tunisia

2. urgence, CHU sahloul, sousse, Tunisia

Keywords: ST-elevation myocardial infarction, gender, mortality, reconsultation, MACE

Abstract :

Introduction: Cardiovascular disease is the leading cause of death in women. This excess mortality raises questions about possible specificities affecting the pathophysiology, diagnosis and prognosis

Objective: To study the impact of on the prognosis of STEMI in the emergency room.

Materials and methods: All emergency patients diagnosed with STEMI are included. We divided the patients into two groups according to sex: group I: group of men and group II: group of women. All demographic, clinical and biological characteristics of the patients are noted. Statistical analyzes are performed using SPSS18.

Results: A predominance of men is observed in our population: 80.6% of the population are male and 19.6% are women. The outcome at one month is significantly different between the two groups in our study ($p = 0.024$). Indeed, all of the men benefited from coronary angioplasty, and PAC (coronary aorto bypass). The reconsultation rate is observed more among women. The MACE effects and mortality are observed in the group of women with still significant differences (0.02, 0.01 respectively). Intra-hospital mortality is observed in women more than men. While no significant difference between groups in mortality one month after admission to the emergency department.

Conclusion: Although female patients have a higher cardiovascular risk profile and a reconsultation rate higher, no gender-based prognostic difference was seen in the emergency department.

#23132 : The role of qSOFA in prognostic evaluation of multiple trauma**Authors:**

Di Hao (1), Hai Hu (1), Yu Cao (1)

1. , none, Chengdu, China

Keywords: qSOFA ; multiple trauma

Abstract :

Background: The qSOFA score was originally used for the early assessment of sepsis. multiple trauma progresses rapidly and has a poor prognosis, and its pathophysiological characteristics are similar to sepsis in some respects. Therefore, the purpose of this study is to evaluate the application of qSOFA in multiple injuries.

Methods: This was a single center, trauma registry based observational cohort study. We collected data from patients with multiple trauma who presented to the emergency department of a hospital, between April, 2015 and December, 2016. Main outcome was 28-days in- hospital mortality . We used the t-test to compare qSOFA values between dead and non-dead patients. We used qSOFA to predict the ROC curve of 28-day death in patients with multiple trauma.

Result: A total of 444 patients with multiple trauma were collected, of which 75.9% were male and the mortality rate was 14.2%. The t-test results showed that there was a statistically significant difference in qSOFA between 28-day deaths and 28-day surviving multiple-injury patients. Area under the ROC curve predicted by qSOFA score for 28-day death in patients with multiple injuries is 0.8.

Conclusion : qSOFA can predict the 28-day prognosis of patients with multiple trauma.

Discussion: Due to the rapid progression of multiple trauma patients, the early mortality rate was >11%, and the incidence of shock was 26-68% , the prognosis should be evaluated accurately and quickly. We can use qSOFA to assess the prognosis of multiple trauma better, taking into account both accuracy and simplicity. This is an extended application of this score in the field of trauma.

Trial Registration / Funding Information (only) :

None

#23134 : Role of troponin in diagnosing sepsis-induced myocardial dysfunction an observational prospective study

Authors:

Francesca Innocenti (1), Anna De Paris (1), Vittorio Palmieri (2), Valerio Teodoro Stefanone (1), Federico D'Argenzio (1), Marco Cigana (1), Michele Montuori (1), Elisa Capretti (1), Stefano Calcagno (1), Irene Tassinari (1), Riccardo Pini (1)

1. High-Dependency Unit, Department of Clinical and Experimental Medicine, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy
2. Transplant Cardiosurgery Unit, Department of Cardiosurgery and Transplant, University Hospital Monaldi-Cotugno-CTO, Napoli, Italy

Keywords: Troponin, sepsis-induced myocardial dysfunction, echocardiography

Abstract :**Background**

The diagnosis of sepsis-induced myocardial dysfunction (SIMD) is based on the echocardiographic evaluation. The aims of the present study were: 1) to test the diagnostic accuracy of troponin for the presence of SIMD, with identification of LV systolic dysfunction by the Global Longitudinal Strain; 2) to evaluate the prognostic value of this biomarker for the day-7 and day-28 mortality rate.

Methods

Between October 2012 and June 2019, we enrolled prospectively 354 patients admitted to our High-Dependency Unit for sepsis (41% with shock). All patients underwent a complete echocardiographic examination within the first 24 hours. SIMD was defined as LV systolic dysfunction (using speckle-tracking-based global longitudinal peak systolic strain, GLS, $> -14\%$) and/or RV systolic dysfunction (using Tricuspid Annular Plane Systolic Excursion, TAPSE $< 16\text{mm}$).

Troponin levels were measured upon admission (T0) and after 24 hours (T24); they were analysed as continuous values and dichotomized ($<$ or ≥ 0.1 ng/ml). The end-points were day-7 and day-28 mortality rate

Results

One hundred fifty-five patients had normal T0 and T24 troponin level (G1), 74 either T0 or T24 abnormal levels (G2) and 129 both abnormal levels (G3). The three groups did not show any significant difference in terms of demographic data or previous medical conditions. Compared to G1 patients, those in G3 had higher SOFA score (G1: 5.6 ± 2.7 ; G2: 6.7 ± 3.0 ; G3: 6.4 ± 3.1 , $p < 0.05$ between G1 and G3). LV (GLS: G1 $-13.7 \pm 3.6\%$; G2 -13.0 ± 3.4 ; G3 $-11.3 \pm 3.5\%$ $p < 0.05$ between G3 and G1 and G2) and RV systolic function (TAPSE: G1 1.9 ± 0.5 ; G2 1.7 ± 0.5 ; G3 1.7 ± 0.5 , $p < 0.05$ between G1 and G3) were significantly worse in G3 patients, as well the day-7 and (10%, 16% and 21%, $p < 0.05$ between G1 and G3) day-28 mortality rate (21%, 32% and 37%, $p < 0.05$ between G1 and G3).

We found 247 patients with SIMD, 134 with isolated LV dysfunction, 29 with RV dysfunction and 84 with a biventricular dysfunction. The percentage of patients with SIMD was higher in G3 (n=103, 80%) patients, compared to G1 (n=89, 59%, p=0.004 vs G3) and G2 (n=48, 65%, p=0.058 vs G3). Based on the ROC curves analysis, troponin showed a fair diagnostic accuracy for the presence of SIMD (T0 troponin: AUC 0.66, 95%CI 0.59-0.73; T1 troponin AUC 0.67, 95%CI 0.61-0.73, all p < 0.001)

In a multivariate Cox survival analysis, including age, SOFA score, the presence of SIMD and troponin level ≥ 0.1 , the biomarker did not display an independent prognostic value, while SIMD did (RR 3.28, 95%CI 1.75-6.15, p<0.001).

Conclusions

High troponin levels indicated with a fair diagnostic accuracy the presence of SIMD, but were not independently associated with an increased short- and medium-term mortality rate. A high level of troponin is highly suspicious for SIMD, nevertheless an echocardiographic evaluation is mandatory.

Trial Registration / Funding Information (only) :

Not applicable

#23135 : Emergency department utilization by transgender and gender non-binary adolescents**Authors:**

Akio Kozato (1), C. Anthony Lim (2), Logan Jardine (3), Barbara Barnett (2), John Steever (4), John Pang (5), Yiwei Ling (5), Erick Eiting (2)

1. , Icahn School of Medicine, New York, USA

2. Department of Emergency Medicine, Mount Sinai Beth Israel/Icahn School of Medicine at Mount Sinai, New York, USA

3. Emergency Medicine, Mount Sinai Beth Israel, New York, USA

4. Pediatrics, Icahn School of Medicine, New York, USA

5. Department of Surgery, Mount Sinai Beth Israel, New York, USA

Keywords: Emergency Department, Transgender, Gender non-binary, Adolescent, Pediatric

Abstract :

Purpose: Transgender and gender non-binary (TGNB) adolescents face unique challenges when seeking medical care, yet there is a paucity of literature exploring healthcare utilization by the TGNB population. Electronic medical records (EMR) have limited abilities to track sexual orientation and gender identity data, adding to the difficulty of studying this vulnerable population. This study evaluates emergency department (ED) utilization for TGNB adolescents with established access to primary care to understand reasons for seeking care.

Methods: A retrospective chart review of visits for adolescent TGNB patients 12 to 26 years old who visited any ED in an urban, multi-hospital health system was performed from January 2017 to December 2018. Patients were identified from enrollment lists of a primary care clinic serving TGNB adolescents. Data from the electronic medical record regarding patient demographics, medical/surgical history, ED clinical course, and discharge diagnoses was collected. Multiple visits were included in the analysis.

Results: 477 adolescent patients belonging to the primary care clinic were screened for ED visits between January 2017 and December 2018. A total of 55 ED visits were made by 28 unique patients (6%). 14 patients made 1 visit (50%), 7 made 2 visits (25%), 2 made 3 visits (7%), and 5 made greater than 4 visits (18%). Patients were under 18 years of age for 22 of the 55 visits (40%). Reviewing dispositions, 22 (40%) visits resulted in at least one psychiatric or social discharge diagnosis, 9 of which occurred in patients under age 18 (41%). 11 (20%) visits resulted in at least one trauma discharge diagnosis, 4 of which occurred in patients under age 18 (40%). The discharge diagnoses for the remaining ED visits revealed 19 medical visits (35%), 1 surgical visit (1.8%), 2 other visits (3.6%), and notably 1 post-gender affirmation surgery visit (1.8%). 6 of the visits with psychiatric or social diagnoses and 3 of the visits with medical diagnoses led to a hospital admission.

Conclusions: Our experience as a large academic health system that provides primary care to TGNB patients in a metropolitan area demonstrates a significant number of ED visits related to mental health and trauma. Additionally, a significant number of patients seen for psychiatric reasons required hospital admission. Half of the patients evaluated had multiple ED visits during this period. These findings suggest that there are opportunities to provide direct interventions for these vulnerable populations. Further study is needed to better understand the need for emergency services for adolescent TGNB patients.

#23136 : Characteristics and Predictors of Hydrocodone Misuse: Results from the 2018 National Survey on Drug Use and Health.

Authors:

Saumitra Rege (1), Marissa Kopatic (1), Heather A. Borek (1), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

Keywords: Hydrocodone, NSDUH, Opioid, Epidemiology, Drug Misuse

Abstract :

Background: There were more than 168 million total opioid prescriptions dispensed in the United States in the year 2018. The abuse and diversion of prescription opioids, especially hydrocodone, continue to be a serious public health concern. According to the Monitoring the Future survey, prevalence of the past year Vicodin misuse were 0.9% and 1.1% for 8th and 10th graders respectively. The current study aims to identify predictors of hydrocodone misuse using the National Survey of Drug Use and Health (NSDUH) data.

Methods: The 2018 NSDUH public use cross-sectional data were analyzed. The respondents were classified into two groups, past year hydrocodone users and misusers, based on the screening questions assessing past-year use and misuse of hydrocodone products. The prevalence of selected demographics, clinical factors, as well as substance use and abuse, including prescription medications, was assessed descriptively for the two population groups using cross-tabulated frequencies and chi-square tests. Logistic regression was used to identify predictors of hydrocodone misuse adjusting for covariates. Adjusted odds ratios (OR) and corresponding 95% Confidence Intervals (CI) were calculated.

Results: The survey included 56,313 respondents, of which 8,064 respondents (14.3%) reported using hydrocodone in the previous year. Of these 1,193 reported hydrocodone misuse, accounting for 14.7% of the total hydrocodone users or 2.1% of the survey sample. Past year hydrocodone misusers were more likely to be males (53.9% vs 42.4%, $p < 0.001$), unmarried (75.5% vs 56.8%, $p < 0.001$), and under 25 years of age (42.7% vs 25.8%, $p < 0.001$) compared to non-misusers. The proportion of past-year alcohol use (59.9% vs 33.3%, $p < 0.001$), low income (21.3% vs 17.7%, $p = 0.01$), and major depression (22.2% vs 11.8%, $p < 0.001$) was greater in people misusing hydrocodone. Past-year use and misuse of substances, including heroin (6.5% vs 1.4%, $p < 0.001$) and marijuana (64.7% vs 25.6%, $p < 0.001$), was significantly higher in hydrocodone misusers. Previous year use of marijuana (OR: 2.47, 95% CI: 2.11 – 2.90) and tranquilizers (OR: 1.17, 95% CI: 1.01 – 1.42) were significant predictors of hydrocodone misuse (ref: non-users). Males (vs females) were 38% (OR: 1.38, 95% CI: 1.19 – 1.68) and unmarried individuals (vs married) were 18% (OR: 1.18, 95% CI: 1.03 – 1.41) more likely to be hydrocodone misusers. Among clinical conditions, presence of major depressive disorder (OR: 1.19, 95% CI: 1.01 – 1.48) and suicidal ideation (OR: 1.52, 95% CI: 1.20 – 1.92) increased the risk of hydrocodone misuse. Hydrocodone misuse was significantly more likely among misusers (vs non-misusers) of other substances including sedatives (OR: 1.95, 95% CI: 1.11 – 3.14), morphine (OR: 4.40, 95% CI: 2.06 – 9.43), and stimulants (OR: 2.90, 95% CI: 1.22 – 6.86). Conversely, older age

individuals (65 years and above) (ref: 12–17 years) (OR: 0.35, 95% CI: 0.21 – 0.60) were significantly less likely to misuse hydrocodone.

Conclusions: The results indicate a high prevalence of hydrocodone misuse within a nationally representative sample of survey respondents. The use and misuse of substances and underlying mental health conditions were important predictors of hydrocodone misuse. Appropriately directed harm reduction strategies must be developed focusing on these predictors.

Trial Registration / Funding Information (only) :

N/A

#23137 : Utilizing a pediatric observation unit to provide continuous aerosolized albuterol to children with severe asthma**Authors:**

Eileen Mercurio (1), C. Anthony Lim (2), Erick Eiting (2), Julie Oh (2), Jeremy Rose (1), Yvette Calderon (2), Barbara Barnett (2)

1. Emergency Medicine, Mount Sinai Beth Israel, New York, USA

2. Department of Emergency Medicine, Mount Sinai Beth Israel/Icahn School of Medicine at Mount Sinai, New York, USA

Keywords: Pediatric, Asthma, Observation

Abstract :

Background: Continuous aerosolized albuterol therapy (CAA) is superior to intermittent albuterol for severe acute asthma exacerbations (AAE). Current practices dictate that continuous albuterol be administered only in the Pediatric Emergency Department (PED) or Pediatric Intensive Care Unit (PICU), which utilizes significant resources at high cost. However, increasing data support the safety and feasibility of CAA in other clinical settings.

Objective: To determine if CAA for children with severe AAE in a Pediatric Observation Unit (POU) may improve PED throughput and reduce the need for PICU admission.

Methods: We performed a retrospective chart review of children less than After that time, those advancing to intermittent therapy remained in the POU, and those requiring continued CAA or with clinical deterioration were transferred to the PICU. Children requiring >48 hours of care were transferred to an inpatient unit. The PED course, overall length of stay (LOS), and number of patients requiring escalation of care were recorded.

Results: During the study period, 27,062 children were seen in the PED, resulting in 1,114 (4.1%) admissions to the POU. Of these, 284 (25.9%) were for AAE and 49 (4.4%) with severe AAE requiring CAA. Mean age was 9.3yrs (SD 5.0). 25 (51%) were male. In the PED, patients received 4 (IQR 3, 5) albuterol and 3 (IQ 2, 3) atrovent treatments; 100% received systemic corticosteroids, and 60.9% received magnesium sulfate. Following 6 hours of CAA, 15 (30.6%) were transferred to the PICU, and 34 (69.4%) were transitioned to intermittent albuterol therapy. Of these 24 (70.5%) were successfully discharged from the POU and 10 (29.4%) were transferred to an inpatient unit. The average LOS for patients in the observation unit was 35.9 hours (SD 9.8). No patients were readmitted within 72 hours of discharge.

Conclusion: A majority of children with severe AAE avoided PICU admission following short-course CAA and were safely discharged within the timeframe of an observation admission (<72hrs). A POU may provide a valuable alternative setting for CAA in patients meeting appropriate clinical criteria.

#23138 : Diversity and Inclusion Climate Survey

Authors:

Jeranil Nunez (1), C. Anthony Lim (2), Erick Eiting (2), Yvette Calderon (2)

1. Emergency Medicine, Icahn School of Medicine, New York, USA

2. Department of Emergency Medicine, Mount Sinai Beth Israel/Icahn School of Medicine at Mount Sinai, New York, USA

Keywords: Diversity, Inclusion

Abstract :**Background**

Diversity in our medical workforce has demonstrated benefit to patient experience, job satisfaction, and faculty development. There have been concerted efforts among leaders in Emergency Medicine to encourage diversity and inclusion within academic and community centers. The impact of these interventions on faculty perceptions regarding their work environment has not previously been evaluated.

Methods

An anonymous 25 question web-based survey was developed using previously reported diversity climate and graduate medical education surveys. This was distributed via email to the Emergency Medicine Faculty of our Health System. Respondents were asked to self-report demographic information and to respond to questions regarding their perspective and experiences regarding race, ethnicity, and gender using an ordinal scale. Frequencies were calculated, subgroup analysis was conducted using Wilcoxon Rank Sum tests to identify differences between groups in question response.

Results

48 out of 250 full time, part time, and per diem faculty responded to the survey. 24 respondents were male, 23 female, and 1 preferred not to report gender. 28 (57.1%) self-identified as White/Caucasian, 8 (16.3%) as Asian, 6 (12.2%) as Black/African American, 6 (12.2%) Hispanic/Latino, 3 (6.1%) other, and 3 (6.1%) preferred not to report. Responses were distributed in a similar fashion to faculty demographics with respect to hospital site and gender; information regarding race/ethnicity was not available for comparison. A majority of faculty responded that the Department encouraged diversity (60.1%), there was a need for more diversity amongst the faculty (63.4%), and that there was a need to address unconscious bias (57.1%). There were differences in responses from female versus male respondents regarding experiencing gender-based discrimination (50% vs 8%), perception of lack of advancement and faculty development opportunities (44% vs 8%), and lack of faculty support (35% vs 4%). Significantly more women compared to men (73% vs 20%) and non-white compared to white faculty (62.5% vs 33%) report

feeling isolated.

Conclusions

A majority of respondents replied affirmatively to questions regarding the Department's emphasis on the importance of diversity and in efforts to recruit an inclusive faculty. Future efforts should focus on addressing unconscious bias, gender-based discrimination, and reducing the sense of isolation among women and minority faculty.

#23139 : Epidemiology of Benzodiazepine Exposures using the National Poison Data System

Authors:

Saumitra Rege (1), Jennifer Ross (2), Heather A. Borek (1), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

2. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, CHARLOTTESVILLE, USA

Keywords: Benzodiazepines, Poison Centers, Trends, Toxic Exposures, Drug Misuse

Abstract :

Background: The rate of annual healthcare visits involving prescription benzodiazepines increased from 3.8% to 7.4% between 2003 and 2015 in the United States. Benzodiazepines-related overdose mortality has risen sharply, from 0.6 per 100,000 adults in 1999 to 4.4 per 100,000 adults in 2016. Approximately 30% of overdoses involving opioids also involve benzodiazepines. The objective of the study was to describe the epidemiology of benzodiazepines exposures using a national poison center (PC) database.

Methods: The National Poison Data System (NPDS) was queried for human exposures to benzodiazepines from 2013 to 2019 using the specified generic code identifiers. We descriptively assessed the relevant demographic and clinical characteristics. Reports from acute care hospitals and emergency departments (ACHs) were analyzed as a sub-group. Trends in benzodiazepines frequencies and rates (per 100,000 human exposures) were analyzed using Poisson regression methods. Percent changes from the first year of the study (2013) were reported with the corresponding 95% confidence intervals (95% CI).

Results: There were 490,572 human exposures to benzodiazepines reported to the PCs from 2013 to 2019, with the annual calls decreasing from 75,108 to 58,377 during the study. Polysubstance exposures accounted for 73.5% of benzodiazepines exposures. Of the total benzodiazepines calls, the proportion of calls from ACHs increased from 63.7% to 69.3% during the study period. Multiple substance exposures accounted for 70.6% of the calls involving benzodiazepines from ACHs. Approximately 23.1% of the patients reporting benzodiazepine exposures were admitted to the critical care unit (CCU), while 12.3% of the patients were treated and released. Residence was the most common site of exposure (93.6%) and 75.8% cases were en-route to the hospital when the PC was notified. Among the patients, 61.4% were females, with the majority of benzodiazepine exposures occurring between the ages of 20-29 years (18.6%). Suspected suicide (60.6%) was the most commonly reported reason for exposure. The proportion of such cases was higher in reports from ACHs (74.1%). Compared to the overall sample, suspected suicide intent was significantly lower among single substance benzodiazepine exposures (60.6% vs 47.6%). Major effects were seen in 6% of cases and the case fatality rate was 0.5%. Notably, there was an approximately 54% decrease in the number of annual deaths reported to the PCs. The most frequently co-occurring substances associated with the cases were alcoholic beverages (15.9%) and antipsychotics (8.8%). Tachycardia (15.2%) and respiratory depression (5.5%) were commonly observed clinical effects. During the study period, the frequency of benzodiazepine exposures decreased by 22.3% (95% CI: -21.5%, -23.2%; $p < 0.001$), and the rate of benzodiazepine exposures decreased by 20.8% (95% CI: -16.7%, -24.7%; $p = 0.03$).

Conclusions: Benzodiazepine exposures decreased during the study period. However, a larger percentage of the calls were from healthcare facilities suggesting higher healthcare utilization related to benzodiazepines. Although the deaths declined, this fails to capture patients who died before reaching medical care, and the true death rate should be compared with other sources, such as medical examiner

data. Benzodiazepines have also been increasingly associated with suicidal ideation, which was the most common reason for exposure in our sample.

Trial Registration / Funding Information (only) :

N/A

#23140 : Age-related differences in the prognostic value of sepsis-induced myocardial dysfunction: an observational study**Authors:**

Federico Meo (1), Francesca Innocenti (1), Vittorio Palmieri (2), Michele Montuori (1), Stefano Calcagno (1), Marco Cigana (1), Federico D'Argenzio (1), Anna De Paris (1), Valerio Teodoro Stefanone (1), Irene Tassinari (1), Riccardo Pini (1)

1. High-Dependency Unit, Department of Clinical and Experimental Medicine, AOU Careggi, Firenze, Italy
2. Transplant Cardiosurgery Unit, Department of Cardiosurgery and Transplant, University Hospital Monaldi-Cotugno-CTO, Napoli, Italy

Keywords: Sepsis induced myocardial dysfunction, sepsis

Abstract :

Background

The aim of this study was to investigate the presence of age-related differences in the prognostic value of sepsis-induced myocardial dysfunction (SIMD).

Methods

Consecutive patients with sepsis, admitted between July 2012 to September 2019 to our Emergency Department High-Dependency Unit, were included. A complete echocardiographic examination was performed within the first 24 hours. We assessed LV systolic function with Global Longitudinal Strain (GLS) and RV systolic function with Tricuspidal Annular Posterior Systolic Excursion (TAPSE). LV systolic dysfunction was defined as GLS > -14%, RV systolic dysfunction as TAPSE

Results

We included 391 patients, 90 in group A and 301 in group B. The 2 groups were similar for gender distribution (male gender 70% vs 55%), sepsis source (mainly respiratory), lactate levels upon admission (2.0 vs 2.3 meq/L), SOFA score [6 (3-8) vs 6 (4-8)] and incidence of septic shock (31% vs 41%). LV systolic dysfunction showed a similar prevalence (57% vs 63%) while RV systolic dysfunction was less prevalent in group A than in group B (18% vs 36%, $p < 0.001$). Mortality was lower in group A compared with group B at Day-7 (6% vs 18%, $p = 0.01$), Day-28 (16% vs 36%, $p < 0.001$) and long-term follow-up (42% vs 69%, $p < 0.001$). For group A, a Kaplan-Meier survival analysis showed a decreased survival for patient with LV systolic dysfunction at day-7 (90 vs 100%, $p = 0.04$) and no significant difference at day-28 and long-term follow-up (80 vs 86%, $p = 0.39$; 48 vs 68% and $p = 0.07$). For patients in group B, LV systolic dysfunction was associated with decreased survival at Day-7, Day-28 and long-term follow-up (respectively 77 vs 89%, $p = 0.009$; 54 vs 80%, $p < 0.001$; 23 vs 43%, $p < 0.001$). The Kaplan-Meier analysis for RV systolic dysfunction did not show any difference in survival at day-7 for both groups. At day-28 survival was decreased only in group B (53 vs 72%, $p = 0.001$), while it was reduced for both group during long-term follow-up (group A: 33 vs 63%, $p = 0.002$; group B: 23 vs 36%, $p = 0.006$). We performed a Cox regression analysis and we included in the model LV systolic dysfunction, RV systolic dysfunction, SOFA score and a history of known coronary artery disease. LV systolic dysfunction was an independent predictor of mortality only in Group B, at day-7 (HR 2.02, CI 1.01-4.07, $p = 0.04$), day-28 (HR 2.60, CI 1.57-4.29, $p < 0.001$) and long-term follow-up (HR 1.73, CI 1.27-2.36, $p < 0.001$). RV systolic dysfunction was an independent predictor of mortality only in Group B and only in long term follow-up (HR 2.41, CI 1.16-4.98, $p = 0.02$).

Conclusions

LV systolic dysfunction is an independent predictor of short and long-term mortality among elderly patients and it is associated with a higher short-term mortality in young patients. RV systolic dysfunction is a long-term prognostic marker, independently associated with an increased mortality only in older patients.

Trial Registration / Funding Information (only) :

Not applicable

#23141 : Not urgent access to the Emergency Department: characteristics of the minor codes and relationship with the health care system

Authors:

Massimo ZANNONI (1), Valentina GELMINI (2), Giorgio RICCI (3), Alberto RIGATELLI (3), Lucia ANTOLINI (4), Roberto CASTELLO (1), Chiara BOVO (5)

1. Emergency and Accident Department, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, VERONA, Italy
2. Regional School of Specific Training in General Medicine - Pole of Verona , Regione del Veneto, Verona, Italy
3. Emergency and Accident Department, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, Verona, Italy
4. Hospital and Health Direction, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, Verona, Italy
5. Hospital Health Direction, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, VERONA, Italy

Keywords: Emergency Department, minor code, health care, non-urgent

Abstract :

Emergency department (ED) admissions increase steadily for decades, at a rate faster than population growth. Various reasons contribute to rise ED use: aging demographics and elderly, a lack of timely access to care in a doctor's office, non-ED urgent care setting and technological improvements changing and expanding the EDs role in our health care system.

Aim of the study: to evaluate prevalence of ED attendance potentially preventable through interventions on the patient or on the home physician.

Methods: cross-sectional observational study from May 2018 to Oct 2019 through a 39 item questionnaire filled by patients classified as non urgent at discharge from the ED in Azienda Ospedaliera Universitaria Integrata - Borgo Trento Hospital in Verona (I).

Results: During the study period 481 (74%) over 650 patients accepted to participate to the study: males (78.96%) were more compliant than females (69.7%; $p < 0.007$). No age difference between those accepting (53.16 years old) or refusing (55.95 years old) to participate. 53% of the patients decided to access the ED independently, 25% were suggested by friends or family member and only 21% after medical advice. 54% of patients had no previous ED admissions and 75% were evaluated at least once by their General Practitioner (GP) in the last 12 months. Only 23% of the cases were alone at home and 61% have a medium-high cultural level, unemployed were 16%. Regarding to the clinical reasons that led to ED presentation, symptoms lasted for more than 24 hours in 63% of case, mostly beginning in daytime (60%); almost half of them (46%) due to traumatic events. 59% of patient did not considered (GP) evaluation before ED admission even if 67% had no issue in being visited by a doctor other than your own doctor in the event of an urgency. When considering the possibility of accessing primary care services, 76% had no problem contacting their GP with no too long waiting times (82%); 95% of patients had never received a refusal by their GP in case of an urgency. 62% trusted their GP but 55% of the interviewed consider the GP not suitable for managing emergencies with not enough equipment for small emergencies (58%). 78% of patients acknowledged be a not-urgent case but believe necessary immediate clinical-therapeutic interventions (77%): 50% of cases accessed the ED for perform tests quickly. Finally 67% of the surveyed patients willing to pay for healthcare benefits.

Discussion: Our data show that ED improperly accessing are mainly young people (

#23142 : A fatal case of Aluminium Phosphide Poisoning in a 16-year-old patient in the pre-hospital setting**Authors:**

Ensaf MISSAOUI (1), Ahmed MAHMOUDI (2), Haifa BRADAI (1), Mounir NAIJA (1), Khaoula RAMMEH (1), Cherifa BEN CHEIKH (1), Naoufel CHEBILI (1)

1. Emergency Medical Services - SAMU 03, University Hospital of Sahloul, Sousse, Tunisia

2. Emergency Department, Farhat Hached University Hospital, Sousse, Tunisia

Keywords: pre-hospital setting, Aluminium Phosphide, Poisoning

Abstract :

Abstract: Aluminium phosphide (ALP) is a widely used pesticide particularly in developing countries with high mortality rates post-acute exposure caused by cellular damage and cardiorespiratory failure. We report the case of intentional acute aluminum phosphide poisoning in a 16-year-old girl that encountered a regional emergency department (ED) in the city of Boumerdes in Tunisia. The intervention of Emergency Medical Services (EMS) was needed in order to provide the patient with advanced care in the University Hospital of the city of Mahdia. The patient developed a cardiogenic shock during the pre-hospital intervention and died despite appropriate circulatory and ventilatory support.

#23143 : Emergency pain control for trauma patients with multiple rib fractures using ultrasound-guided erector spinae plane block**Authors:**

Cosmin Trebuian (1), Cosmin Librimir (2), Dumitru Şutoi (3), Adina Maria Mârza (2), Ovidiu Mederle (2)

1. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
2. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
3. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania

Keywords: regional anesthesia ,rib fractures , trauma

Abstract :**Background:**

The Association for Emergency Trauma Society Guidelines recommends prompt and effective multimodal analgesia for rib fractures that combines regional anesthesia (RA) techniques with pharmacotherapy to treat pain, optimize pulmonary function, and reduce opioid related complications. There are different guidelines for pain treatment in ED, most of them orientated to the color type of emergency.

Methods:

The study was conducted over a period of one year in 23 patients with thoracic trauma who came in Emergency Department (ED) of the County Emergency Hospital Resita. The patients were randomized enrolled in two groups, being included after primary physical examination. There are two sampling criteria – one of them using ESPB and the other one, using an only meds and opioids for pain control. The mean age of the patients was 47 (29 to 74 years). A thorough history, physical exam, and verbal and written informed consent were carried out. Altered mental status, concomitant injuries, and intubation/ventilation are considerations primarily about the inability to position the patient safely and access the paraspinal area to perform the block.

The erector spinae plane block (ESPB) is a paraspinal fascial plane block, done under ultrasound (US) using long axis view. We controlled the initial pain using 1–2 mcg of Fentanyl and 20–50 mg of Ketamine, for both groups of patients; followed by a single shot ESPB injection, mixture of 20 ml 0.375% Bupivacaine + 4mg Dexamethasone + 20 mcg Epinephrine, at T₅ level. In ESPB group, 9 patients also benefited from Paracetamol 1g IV, Diclofenac 75 mg in 100 ml NS IV. In second group we used for 14 patient's 100 mg of Tramadol in 100 ml of NS and a bolus of 2–5 mg of Morphine.

Primary outcomes of our study have evaluated patients mean pain score as well as inspiratory capacity and cough strength. Those parameters were recorded during ED stay (2–6 hours), patients being followed up for the next 48 hours (ESPB group) on the wards.

A Student's T-test statistical analysis was used to evaluate the primary outcomes between the two groups.

Results:

The ESP block was technically straightforward performed with no complications including nerve trauma, pneumothorax, or hematoma formation. Within 15 min of performance of the ESPB, the distribution of sensory block was assessed, showing loss of cold sensation from T₁ to T₉ dermatomes.

There was a statistically significant improvement in mean pain score from 9/10 at ED arrival to 2/10 after ESPB injection group comparing to the control group (9/10 to 6/10).

Discussion & Conclusion:

Pain management in trauma patients with acute thoracic trauma represents a challenge for the ED physicians. The achieving adequate analgesia is an important goal in preventing pulmonary complications as well as decreasing hospital length of stay and finally improving the outcome of this type of patients. However, RA techniques such as epidurals and paravertebral blocks are generally underutilized or unavailable for ED patients. ESPB may be a good option as apart from multimodal pain treatment in the tray of ED thoracic trauma patients.

#23144 : Fentanyl Exposures Reported to the U.S. Poison Centers

Authors:

Saumitra Rege (1), Marissa Kopatic (1), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

Keywords: Overdose, Illicit Drugs, Epidemiology, Toxicology

Abstract :

Background: There were more than 67,000 overdose-related deaths in the United States in 2018, with 70% of these fatalities involving opioids. Overdoses due to synthetic opioids increased by 45% between 2016 and 2017, primarily driven by fentanyl and analogs. Although between 2016 and 2017, more than 5 million prescriptions were dispensed, there is a paucity of nationally representative U.S. fentanyl overdose data. This study aims to examine the national trends in tramadol exposures reported to U.S. poison centers (PCs).

Methods: The National Poison Data System (NPDS) was queried for all closed, human exposures to fentanyl from 2013 to 2019 using the American Association of Poison Control Center (AAPCC) generic code identifiers. We identified and descriptively assessed the relevant demographic and clinical characteristics. Fentanyl reports from acute care hospitals and Emergency Departments (ACHs) were analyzed as a sub-group. Trends in frequencies and rates (per 100,000 human exposures) were analyzed using Poisson regression methods. Percent changes from the first year of the study (2013) were reported with the corresponding 95% confidence intervals (95% CI).

Results: There were 12,843 fentanyl exposures reported to the PCs from 2013 to 2019, with the calls increasing from 1,544 to 2,761 during the study period. Confirmed reports of illicit fentanyl overdoses grew from 3 reports in 2013 to 141 in 2019. The proportion of calls from ACH increased from 64% to 67.4% during the study. Multiple substance exposures accounted for 69.9% of the overall fentanyl calls and 53.4% of the calls from ACH. The most frequent co-occurring substances reported were benzodiazepines (15.5%) and heroin (7.2%). The residence was the most common site of exposure (80.1%) and 73.1% cases were enroute to the hospital when the PC was notified. Tachycardia and respiratory depression were the most frequently demonstrated clinical effects. Naloxone was a reported therapy for 44.1% cases, with this therapy being performed prior to PC contact in most cases. Demographically, 55.5% of cases were males, and the most frequent age groups were 20-29 years (22.5%) and 30-39 years (21.3%). Intentional misuse (41.4%) and suspected suicides (16.8%) were commonly observed reasons for exposure, with the proportion of suicides being higher in cases reported by ACH (22.8%). Approximately 22% of the patients reporting fentanyl exposures were admitted to the critical care unit (CCU), with 11% of patients being admitted to non-CCU. Major effects were seen in 18.2% cases and the case fatality rate was 9.2%, with deaths increasing significantly during the study period (62 deaths in 2013 to 1,184 deaths in 2019). The frequency of exposures increased by 78.8% (95% CI: 68%, 90.3%; $p < 0.001$), and the rate of exposures increased by 82.3% (95% CI: 36.3%, 143.9%; $p < 0.001$).

Conclusions: PC data demonstrated an increasing trend of fentanyl exposures, which may in part be attributed to the due to increased use of illegally or illicitly made fentanyl. Our study demonstrated a significant proportion of fentanyl exposures associated with intentional abuse, suicide and a significantly increased mortality rate. Fentanyl exposure reports from acute care hospitals and EDs during the study increased.

Trial Registration / Funding Information (only) :

N/A

#23145 : Assessment of the effect of a hospital-based simulation exercise about decontamination during a chemical mass casualty incident on knowledge and self-efficacy in emergency staff.

Authors:

Lieselot Blomme (1), Sofie Pauwels (2), Ruben De Rouck (2), Ives Hubloue (2)

1. Emergency department, Brussels University Hospital (UZBrussel), Jette, Belgium
2. Research group on Emergency and Disaster Medicine, Vrije Universiteit Brussel, Jette, Belgium

Keywords: Chemical decontamination, mass casualty, simulation, self-efficacy, knowledge

Abstract :**Introduction:**

Recent developments with nerve agents have renewed the interest in public preparedness against chemical incidents. Training and education of emergency staff remains an important topic and can be performed using different methodologies. Live simulation exercises for example are resource- and time-consuming, often raising the question if they are worth it when compared to focussed training. Therefore, such an exercise should have a clear effect on the knowledge and self-efficacy of personnel. A simulation exercise was organised in a tertiary hospital to train personnel in wet decontamination and to identify bottlenecks in the decontamination procedure. In order to estimate the effect of training and a live exercise on knowledge and self-efficacy of participating personnel, a set of questionnaires was designed.

Objective:

Evaluating the effect of a course and a live simulation exercise about decontamination in a chemical mass casualty incident on knowledge and self-efficacy of emergency department personnel.

Design and setting:

An influx of wild evacuees from a chemical mass casualty incident using a nerve agent in a nearby metro station was simulated. Twenty-four volunteers and 10 staff members (4 emergency physicians and 6 emergency nurses) participated in this exercise. All parts of the decontamination procedure were simulated: regulation, triage, rapid stabilisation, disrobing, showering and re-robing.

Methods:

Participants participated in a course with a 3-hour lecture and hands-on training on the use of personal protective environment clothing, 5 days before the simulation exercise. Questionnaire were collected from participating emergency department personnel to evaluate knowledge and self-efficacy: 1 before the course, 1 after the course and 1 after the simulation exercise.

The questionnaire consisted of 11 knowledge-based questions as well as a self-assessment on their own self-efficacy to perform in-hospital decontamination of chemical mass casualty incident victims.

Results:

Nine pre-training questionnaires, 10 post-course and 10 post-exercise questionnaires were collected (1 person arrived late to the course). A one-tailed paired t-test using $\alpha=0.05$ was used to compare the results from before and after the course to the results after the simulation exercise. Eight participants performed better, and two participants performed worse on the knowledge test, both after the course and simulation. Average scores improved with training: 9.5/11 before the course training compared to 10.2/11 after the course and 10.5/11 after simulation. Improvement after the course was borderline insignificant ($p=0.11$), as well as improvement between before the course and after the exercise ($p=0.06$). The difference between after the course and after the exercise was borderline statistically significant ($p=0.04$).

None of the participants felt prepared to perform a chemical decontamination procedure before the course, while 8/10 considered themselves prepared after the course and 10/10 felt ready after the simulation exercise.

Conclusion:

Both focussed training session and live decontamination exercise improved decontamination procedure knowledge and self-efficacy in this small sample. While resource intensive, a live simulation exercise led to a bigger increase in knowledge and self-efficacy.

#23146 : Evaluation of a modified Heart score for ruling out patients with non traumatic chest pain in emergency department: a prospective and observational study**Authors:**

Giulia CESTER (1), Dario Caruso (2), Elena Casadei (2), Sara Nanni (2), Daniela Nizza (2), Luca Santi (2), Gabriele Farina (2), Alice Grignaschi (2), Maria Grazia Mirarchi (2), Sauro Canovi (2), Nicola Carangelo (2), Antonio Triolo (2), Fabrizio Giostra (2)

1. Medicina d'Urgenza - Pronto Soccorso, Policlinico Sant'Orsola Malpighi, BOLOGNA, Italy

2. Medicina d'Urgenza - Pronto Soccorso, Policlinico Sant'Orsola Malpighi, Bologna, Italy

Keywords: non traumatic chest pain, major adverse cardiac events, HEART score, high sensitive troponin

Abstract :**Background:**

Among the patients presenting to the Emergency Department (ED) for non traumatic chest pain it is important to identify who are at risk of major adverse cardiac events (MACE). In 2015, through a retrospective observational study, we evaluated the performance of a modified HEART score (mHS), using a high sensitive troponin (hs-Tn) instead of the conventional one and changing electrocardiogram (ECG) criteria. We are currently carrying out a prospective observational study about the use of mHS.

The aim of our research is to compare mHS performance with the standard HEART score (sHS) in: identifying three classes (low, intermediate, high) with a different risk of MACE and demonstrating a statistically significant difference in the three categories; selecting patients who can be rapidly and safely discharged with a margin of error <1%; highlighting whether or not there are statistically significant differences between the two scores in the attribution of the risk class.

Materials and methods:

This is a monocentric, prospective and observational one-year study carried on in the ED of Policlinico Sant'Orsola Malpighi of Bologna, Italy. We enrolled consecutively (24 hours a day, 7 days a week) 1147 patients admitted to the ED for non-traumatic chest pain between November 2019 and January 2020. 136 patients were excluded: 5 were younger than 18yo, 16 refused the consent, 10 presented an ST-segment elevation, 22 left before medical evaluation, 83 didn't have suspicious symptoms. Eventually 1011 patients were enrolled and a 90 days follow up was performed.

The difference in classification of subjects between mHS and sHS has been evaluated by means of Chi Square test. The relationship between categories and continuous values of the scores and incidence of MACE has been evaluated by means of Fisher's Exact Test and logistic regression models, respectively.

Results:

Modified HS identified 468 patients at low, 379 at intermediate and 164 at high risk; reported MACE were respectively 4, 42 and 84. Using the sHS there were 456 patients in the low, 387 in the intermediate and 168 in the high risk group; reported MACE were respectively 4, 41 and 85. The MACE missed rate within the low risk category, for both scores, was 0,85%.

Modified HS and sHS categories were both significantly associated with a different MACE incidence (both $P < 0.0001$). There were no statistically significant differences in the classification of subjects in low, medium or high risk among the two scores ($p = 0.866$).

Discussion and conclusions:

With this study we are trying to evaluate HEART score performance using sHS and the mHS ECG score system. According to our study both models show high precision to divide patients into 3 categories and to recognize low risk patients with a <1% mistaken discharge rate. Even if mHS identified more low risk patients who can be safely discharged, the difference with the sHS was not statistically significant. We will assess, at the end of the study, if these results will be confirmed or not, showing a difference between the scores.

Trial Registration / Funding Information (only) :

Study approved by ethics committee as "Heart_Hst_2019" with registration number 480/2019/Oss/AUOBo. This study did not receive any specific funding. This study contemplate informed consent.

#23147 : D dimer may be required in central chest pain.

Authors:

Islam Elrobaa (1), Islam Elrobaa (2)

1. adult Emergency , HMC , alwakra, Qatar
2. adult Emergency , HMC , Alwakra, Qatar

Keywords: Central chest pain , CT pulmonary angio , aortic dissection

Abstract :

This is case interesting to recognise the aortic dissection in central chest pain patient and to avoid missed case of aortic dissection.

We reported a 42 years old gentleman presented with central chest pain, he got aspirin and nitroglyctine sublingual 0.5 mg, ECG showed biphasic T wave in lateral leads. No co morbidity .Patient had persistent chest pain and got morphine. First set of trop T was negative then, the physician asked second set trop T with D dimer. The second blood test result showed negative trop T again and high D dimer about 3.34. Patient was not cooperative during the bed side echo so CT angio requested to rule out pulmonary embolism PE that showed no PE but its dissection in descending aorta. Patient had transfer to Operation Room for aortic repair and survived. Chest X ray was done before and showed small shadow at right border of the heart it was not much significant.

Learning point:

May D dimer is good point to detect aortic dissection that present with mild to moderate chest pain with junior doctor who has no much experience to read well the chest X ray.

Attachment: photo_2020-03-30_21-04-35.jpg

#23148 : Predicting mortality and readmission based on chief complaint in emergency department patients: a cohort study**Authors:**

Søren Flink Sørensen (1), Stig Holm Jensen (1), Marianne Lisby (1), Mia Hansen Mandau (1), Ida Katrine Thomsen (1), Hans Kirkegaard (1)

1. Research Center for Emergency Medicine, Emergency Department, Aarhus University Hospital and Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

Keywords: Emergency department, emergency medicine, chief complaint, presenting symptom, 30-day risk prediction, mortality, readmission, discharge diagnosis, Denmark

Abstract :

Background: Emergency department (ED) patients present with complaints and not diagnoses. Characterisation and risk stratification based on *chief complaint* can therefore help clinicians improve ED workflow and clinical outcome. Emerging studies on symptom-based approaches have shown an association between chief complaint and mortality and could be used for prognostication. However, these studies have focused on a limited number of non-surgical complaints, and notably the association between presenting complaint and readmission is unknown. In this study we investigated the 30-day mortality and readmission among ED patients based on chief complaint.

Methods: In this cohort study we retrieved routinely collected data from electronic medical records and the Danish Civil Registration System of all ED contacts from July 1, 2016 through June 30, 2017. All patients triaged with one chief complaint using the Danish Emergency Process Triage system were included, and patients with minor injuries (e.g. minor fractures, joint injuries, wounds) were excluded. The chief complaint assigned by the triaging nurse was used as exposure and 30-day mortality and 30-day readmission were primary outcomes. Uni- and multivariate logistic regression was used to determine crude and age- and gender adjusted odds ratios for 30-day mortality and readmission with reference to the remaining study population.

Results: A total of 41.470 patients were eligible. After exclusion of minor injuries and patients not triaged, 19.325 patients were included. The 30-day mortality and 30-day readmission differed significantly among the chief complaints. The highest 30-day mortality was observed among patients presenting with *altered level of conscience* (8.4%, OR=2.0, 95%CI 1.3;3.1), *dyspnea* (8.0%, OR=2.1, 95%CI 1.6;2.6) and *gastrointestinal bleeding* (6.7%, OR=1.7, 95%CI 1.1;2.6). 30-day readmission was highest among patients presenting with *fever/infection* (11.7%, OR=1.9, 95%CI 1.4;2.4), *dyspnea* (11.2%, OR=1.7, 95%CI 1.4;2.0) and '*nausea, vomit and diarrhea*' (10.8%, OR=1.6, 95%CI 1.0;2.7).

Discussion and Conclusions: This study shows that chief complaint is a predictor of 30-day mortality and readmission in an ED population including both surgical and medical patients. Altered level of conscience and dyspnea have the highest mortality; fever/infection and dyspnea have the highest readmission rate. Chief complaint carries important information on the prognosis of the ED patients. This knowledge may assist in improving and optimising the symptom-based initial diagnostic work-up and treatment, and ultimately improve workflow and clinical outcome. In order to do so, further research of specific chief complaints is needed.

Trial Registration / Funding Information (only) :

No trial registration due to no patients involved. This study did not receive any specific funding.

#23149 : Always suspect COVID-19 in hospitalized patients

Authors:

Santiago Blanco Rey (1), Vanesa Natalia Isaac (2), Ismael El Hajra Martínez (1), Elena Santos Pérez (1), Antonio Miguel Pinto da Costa (1), Miriam Uzuriaga (3)

1. Gastroenterology and Hepatology Unit, Hospital Universitario Puerta de Hierro Majadahonda, Majadahonda, Spain
2. SUMMA112, Emergency Department, Madrid, Spain
3. SUMMA112, Emergency Department, Madrid, Spain

Keywords: COVID-19

Abstract :

We present the case of a male 74-year-old patient with a personal history of arterial hypertension, dyslipidemia, type 2 diabetes mellitus, immunosuppression because of having received a kidney transplant in 1984 for CKD of unknown etiology and an event compatible with a possible seizure crisis, for which no further details were provided. The patient went to an Emergency Service of the Community of Madrid (Spain) on March 6th, 2020 due to dysthermia in the afternoon prior to his consultation with associated shivering, as well as dizzying symptoms that have caused a fall, having been found by a relative on the floor when visiting his home (he lives alone). The patient said that he had been unable to get up for 3 hours. The patient denied respiratory symptoms (although during the anamnesis he presented a cough that he claims has been for months), gastrointestinal or urinary symptoms. He refused to smoke or drink alcohol and usually goes to a day center for retired people in the afternoons. On physical examination, he presented 37.3°C with a vesicular murmur preserved after pulmonary auscultation, and an unremarkable abdominal examination. In the blood test, he presented creatinine 1.25 mg / dL, bilirubin 1.3 mg/dL with ALT 87 IU/L, AST 96 IU/L, GGT 40 IU/L LDH 775 IU/L, CRP 90 mg/L, leukocytes in normal range with mild lymphopenia 900/mm³, platelets 121,000/mm³, coagulation with INR 1.21 and D-Dimer of 1.83 µg/mL. The chest radiograph had no pathological findings. With all these clinical, analytical and radiological data, it was decided hospitalization at the Gastroenterology Unit in an individual conventional room without any measure of isolation, given that an incipient acute cholangitis was suspected at the Emergency Department. Upon arrival at the Unit, the doctor in charge reviewed the data, and in the context of the increasing number of cases of COVID-19 in the region and in particular related to day centers for retired people, it was decided to request a PCR test in order to detect SARS-COV-2, being positive.

We consider this case of interest to highlight the importance of in a pandemic context not to avoid suspecting in oligosymptomatic cases the presence of SARS-COV-2 that has high infectivity with an R_0 around 3 that without measures of isolation could cause a high number of infections among healthcare personnel and other hospitalized patients. Early suspicion of the disease is also important to treat the patient as early as possible. An X-ray at the time of the consultation can be normal in up to 50% of cases and a PCR have a sensitivity of around 60%, being the most sensitive test for detection being a chest CT scan (close to 90%) that it was not included in the regional protocols for the diagnosis of new cases at that time, so staying alert and repeating the PCR after 48 hours could increase the sensitivity to detect the disease, maintaining isolation measures in the patient while not completely ruling out its presence.

#23150 : The de Winter Dilemma: The management and outcome of a patient with de winter electrocardiographic pattern in the pre-hospital setting

Authors:

Ensaf MISSAOUI (1), Mounir NAIJA (1), Ahmed MAHMOUDI (2), Haifa BRADAI (1), Naoufel CHEBILI (1)

1. Emergency Medical Services - SAMU 03, University Hospital of Sahloul, Sousse, Tunisia
2. Emergency Department, Farhat Hached University Hospital, Sousse, Tunisia

Keywords: Non STEMI, Winter, pre-hospital setting, Thrombolysis

Abstract :

Background: *De winter sign, first described by de Winter et al. in 2008, is an electrocardiographic (EKG) pattern associated with typical chest pain without classic ST segment elevation that signifies total occlusion of the proximal left anterior descending*

coronary artery (LAD). In this case report we aim to highlight the dilemma of the use of thrombolytic therapy in patients with de winter EKG pattern in the absence of immediate primary percutaneous coronary intervention (PPCI).

Case presentation: *A 66-year-old patient encountered the emergency department (ED) of a regional hospital for anginal chest pain that began 30 minutes before his ED visit with >1mm upsloping ST depression with symmetric tall T in lead V3-V4-V5-V6 characteristic of de Winter T-wave ECG pattern. The patient then presented a cardio-respiratory arrest with initial rhythm being read as pulseless ventricular tachycardia. He was resuscitated and received 3 chocs. The resuscitation was successful and EKG showed an ST segment elevation in the precordial leads. Thrombolytic therapy was administered with success. Coronary angiography concluded to an occluded LAD.*

Conclusion: *Although de winter's pattern was proved to be a sign of critical occlusion of the proximal segment of LAD artery, there lacks proper guidelines on the management of this particular EKG sign. Moreover, thrombolytic therapy is still controversial in the presence of such a sign as current guidelines advocate against this therapy in the absence of STEMI. Our case report adds to the emergent cases of patients with EKG de winter pattern having significant LAD occlusion who were successfully treated with thrombolytic agents.*

#23151 : Brain injury severity score: a retrospective study for a new horizon for traumatic brain injury in the emergency department**Authors:**

Daniela Nizza (1), Antonio Di Micoli (1), Fabrizio Giostra (1)

1. Dipartimento di Emergenza Urgenza, Policlinico di Sant'Orsola, Bologna, Italy

Keywords: traumatic brain injury, computed tomography, Glasgow Coma Scale, BIS score, neurological deficits

Abstract :

Background: Traumatic brain injury (TBI) is the most frequent traumatic cause of access to the Emergency Department (ED) and one of the main responsible for disability and death. Brain computed tomography (CT) identifies consequences of trauma such as bleeding. TBI is classified using Glasgow Coma Scale (GCS) that indicate the severity of brain damage based on patient's best motor, ocular and verbal response. In this study a new score 'Brain Injury Severity (BIS)' has been tested and the aim of our research is to assess whether this tool may identify patients with TBI at increased risk of developing cerebral complications.

Methods: This is a monocentric, retrospective and observational study. We analyzed adult patients admitted to the ED of Policlinico Sant'Orsola in Bologna for head trauma from March 2019 to June 2019. BIS score considers variables such as post-traumatic neurological deficits, post-traumatic seizures, high-energy trauma, antiaggregating and anticoagulant therapy, intake of exogenous substances, assigning double weight to neurological deficits. It was calculated for each patient based on the sum of history of epilepsy and/or alcohol addiction (1 point), high-energy trauma (1 point), post-traumatic loss of consciousness (1 point), anti-aggregating therapy (1 point), anti-coagulant therapy (1 point) and positive neurological objectivity (2 points). If BIS is ≥ 2 points, the patient is positive for this score.

Results: 549 patients were enrolled and in 11% of them brain CT was positive for acute haemorrhagic lesions. High-energy trauma, history of epilepsy and/or alcohol addiction, post-traumatic loss of consciousness, anti-aggregating therapy, positive neurological objectivity were statistically significant prognostic factors of intracranial bleeding. BIS score was ≥ 2 in 51% of cases and it was ≥ 2 in 71% of patients with positive CT. BIS score presented sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) respectively of 71%, 51%, 15%, 94%. GCS showed sensitivity, specificity, PPV, NPV respectively of 5%, 98%, 38%, 10%. Among patients with positive CT the 29% had a normal neurological objectivity but other risk factors for cerebral haemorrhage; 10% had no risk factors and was neurologically normal.

Discussion & Conclusions: In patients with TBI several factors must be considered to identify if the brain CT is needed. In this study GCS confirms its high specificity to identify patients with high haemorrhagic risk; however, it has low sensitivity and low NPV. BIS score considers, in addition to principal risk factors of bleeding, the neurological alterations (which GCS could underestimate), assigning it a double weight. This score has a high NPV suggesting to identify with high probability the patients that will not develop intracranial bleeding complications and that can be safely

discharged without a brain CT. BIS score would be represent a quickly and bedside tool to help the Emergency physician that treat TBI. Multi-centre prospective studies are needed to validate this score.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding

#23153 : 3,4-Methylenedioxymethamphetamine (MDMA) Toxicity in the Emergency Department

Authors:

Mohamed Sultan (1)

1. , University Hospital Limerick, Limerick, Ireland

Keywords: MDMA, serotonin Syndrome, Hyperthermia

Abstract :**Case Report**

A 20-year-old previously healthy male patient brought in by ambulance to the emergency department was found actively seizing inside a house in which his friends admitted taking MDMA with alcohol.

In the ED he was Able to maintain clear airway with no secretion, Increase work of breathing, Heart rate 150 beats/minute, blood pressure 90/45 mmHg, capillary refill time 3 seconds. GCS 11/15, severe agitation, hyperreflexia, and myoclonus were present. Temperature 40 ° c recorded.

ECG showed signs of hyperkalemia (ECG attached).

Diagnosis of serotonin syndrome established.

Ice packs covered the patient, IV normal saline and diazepam in order to reduce the temperature. Dextrose insulin infusion with Ca gluconate 10 ml 10% to control hyperkalemia.

Patient intubated and hemodialysis as K after treatment was 8.3 mmol/L, stayed in ICU for four days then RIP with INR of 4.8.

Learning points

1. Peaked T wave, Wide QRS, Absence of P wave, and Sinewave pattern (wide QRS merge with the T wave) are signs of hyperkalemia in the ECG.
2. MDMA causes toxicity by the release of serotonin, noradrenaline and, to a lesser extent, dopamine.
3. Features of serotonin syndrome:

S Spontaneous clonus.

H Hypertonicity, **H**ypertension or **H**ypotension, **H**yperthermia.

O Ocular clonus.

T Tremors, **T**endon reflex increased.

S Sweating, **S**truggling (agitation).

4. Rapid intervention recommended for the hyperthermia

5. Death usually is due to hyperpyrexia induced multi-organ failure.

Conclusion

We presented a case of MDMA toxicity complicated with serotonin syndrome, managed in the ED for hyperthermia, hyperkalaemia and agitation. Care continued in the ICU but unfortunately, did not show fruitful recovery.

Attachment: hyperkalemia.png

#23154 : Neutrophil to lymphocytes ratio as predictor of in-hospital mortality in septic patients with community-acquired pneumonia: a retrospective multicenter study**Authors:**

Chiara Giaraffa (1), Noto Paola (1), Martina Foresti (2), Alessia Lagomarsini (2), Cristian Lazzari (2), Federica Guerra (2), Marcella Converso (3), Giuseppe Carpintieri (1), Francesca Innocenti (2), Lorenzo Malatino (1), Riccardo Pini (2)

1. Department of Emergency Medicine, Vittorio Emanuele University-Hospital, Catania, Italy
2. High-Dependency Unit, Department of Clinical and Experimental Medicine, AOU Careggi, Firenze, Italy
3. Department of Emergency Medicine, University-Hospital S. Giovanni Bosco, Torino, Italy

Keywords: Sepsis, pneumonia, laboratory markers

Abstract :**Background**

Neutrophil- to-lymphocyte ratio (NLR) is a marker of systemic inflammation, which showed a good prognostic stratification ability among patients with pneumonia. The aim of this study was to investigate the prognostic value of the NLR in patients with sepsis or septic shock caused by a community-acquired pneumonia (CAP).

Methods

A multicenter retrospective observational study was conducted in the Emergency Departments (ED) of four University Hospitals (Catania, Firenze, Torino, Treviso), based on data extracted from the GiViTI database. We selected all the patients, who were admitted to the ED with a diagnosis of sepsis or septic shock caused by a community-acquired pneumonia, in the period January 2014 - January 2018. We excluded patients with active cancer and ongoing chemotherapy. We added the following parameters to the variables already collected in the original database: complete blood count, C reactive protein and procalcitonin. We calculated the neutrophil to lymphocyte ratio as $(N/L)*100$ with the first available blood count within a 24-hour interval. The endpoint was the in-hospital mortality.

Results

We included 592 patients, mean age 75 ± 14 years, 60% male gender; in hospital mortality was 31%. Compared to survivors, non-survivors showed a significantly increased SOFA [6.0 (4.0-9.0, median and range interquartiles) vs 4.0 (3.0-6.0)] and SAPS score [49.00 (37.00-60.50) vs 37.00 (30.00-45.00)], as well as a higher proportion of patients with septic shock (33% vs 14%, all $p < 0.001$). The values of prognostic scores increased in subgroups with a higher NLR value. The absolute number of neutrophils (11.59 ± 6.73 vs 12.32 ± 6.72 10⁹/L, $p = 0.397$) and lymphocytes (1.35 ± 1.35 vs 1.05 ± 1.62 , $p = 0.081$) was similar between survivors and non-survivors, while the NLR was significantly higher in patients with an adverse prognosis [10.36 (5.49-20.21) vs 15.71 (7.98-27.79), $p = 0.006$]. We divided the study population in 4 subgroups, based on the values of NLR quartiles: patients in the 4^o quartile showed a significantly higher SAPS score (1^o Q: 36.0 (28.0-47.0); 2^o Q: 38.0 (30.-47.0); 3^o Q: 40.0 (33.0-48.0); 4^o Q: 44.0 (34.0-54.0), $p < 0.05$ between the 1 and 4^o q). The in-hospital mortality rate increased significantly in patients with higher values

of NLR(17%, 23%, 24% and 36%, $p < 0.05$ between the 4^o q and all the previous ones). A multivariate analysis which included the NLR, alongside SAPSII, confirmed the independent association of a higher NLR with an increased in-hospital mortality (RR 1.01, 95%CI 1.01-1.02, $p = 0.012$), altogether with a higher SAPS II (RR 1.06, 95%CI 1.05-1.08, $p < 0.001$).

Discussion & Conclusions

Among patients with sepsis caused by a community-acquired pneumonia, an higher value of NLR was significantly associated with a more pronounced degree of sepsis severity and with an increased in-hospital mortality, independent to a powerful prognostic score like SAPS II.

Trial Registration / Funding Information (only) :

Not applicable

#23155 : Trends and Risk Markers of Student Hazardous Drinking – A Comparative Analysis Using Longitudinally Linked Datasets in a U.S. Public University**Authors:**

Saumitra Rege (1), Kawai Tanabe (2), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

2. , The University of Virginia , CHARLOTTESVILLE, USA

Keywords: Alcohol Misuse, Student Drinking, Longitudinal Data Linking, Emergency Department

Abstract :

Objectives: Alcohol misuse continues to be a significant health problem among college students resulting in numerous adverse health consequences. While self-report surveys on a sample of students using the binge drinking threshold is the primary source of data to identify at-risk drinkers and monitor the burden of student alcohol misuse. Using a large, longitudinally linked cohort study, we compared the trends in incidence and risk markers of student alcohol intoxication associated with Emergency Department (ED) visits and alcohol-related incidents in a U.S. university.

Methods: Our study population consisted of students aged 16-49 enrolled in a U.S. public university in 7 (2009/10 - 2015/16) years. We used an open cohort design, which allows students to enter the study population throughout the study period rather than on a fixed entry date. Student enrollment data were linked to subsequent ED visits with alcohol intoxication identified using ICD codes and alcohol-related incidents reported to campus authorities within one year following the index annual enrollment. Incidence rate per 10,000 person-years was calculated, and annual trends were analyzed. Multivariate Cox proportional hazard regression models were performed to provide hazard ratios (HRs) and 95% confidence intervals (CI) for the relationships between student characteristics and each outcome (first ED visit with alcohol intoxication and first incident related to alcohol recorded). The temporal trend in the incidence rate of each outcome was evaluated using Poisson regression.

Results: The study cohort consisted of 204,423 students aged 16-49. Over the 7 year study period, 1041 students had at least 1 ED visit with alcohol intoxication, and 5,359 students had at least 1 alcohol-related incident within one year after the index enrollment. The overall incidence rate was 59/10,000 person-years and 311/10,000 person-years, respectively. Both incidences increased linearly in the first 6 years then declined in the last year. In multivariable Cox proportional hazard regression models, risk markers associated with ED visits with alcohol intoxication were: males (versus females): 1.34 (1.18, 1.51); below 20 years of age (versus 25-29 years): 3.22 (1.98-5.26); Hispanic (versus Asian) students: 1.42 (1.06, 1.92); parental tax dependency: 1.65 (1.30-2.09); Greek life member: 1.87 (1.64-2.14) and undergraduate (versus graduate) students: 2.51 (1.82, 3.45). Alcohol-related incidents shared the aforementioned common risk markers. In addition, past year alcohol-related clinic visit: HR = 2.13 (1.27-3.56), past year clinic visit for injury: HR = 1.61 (1.26-2.05), and having been diagnosed with a depressive disorder: HR=1.49 (1.23-2.32) were also statistically significant risk markers for such incidents. Being student-athletes was associated with a lower risk of ED visits with alcohol intoxication, whereas transfer students were at lower risk for alcohol-related incidents.

Conclusion: Building on a large, well-defined, and longitudinal student cohort, this study was able to study the incidence and risk markers of student risky drinking ascertained from 2 independent datasets in a major public university. Linking student enrollment data with subsequent hazardous drinking events can help not only more fully capture and better monitor student hazardous drinking behavior but also identify high-risk students who can subsequently be targeted in intervention efforts.

Trial Registration / Funding Information (only) :

N/A

#23156 : High-flow nasal cannula in mild to moderate thoracic trauma patient: a Trauma Center subICU experience.

Authors:

Francesca Nori (1), Francesco Frezza (2), Patrizia Cuppini (1), Alessandro Valentino (1)

1. Dipartimento Chirurgico e Grandi Traumi,, M. Bufalini Hospital, Cesena, Italy, Cesena, Italy

2. UOC PS-Medicina d'Urgenza, S. Carlo Borromeo Hospital, Milano, Italy

Keywords: High-flow nasal cannula, thoracic trauma, thoracic trauma severity score, acute respiratory failure

Abstract :

Abstract:

Background:

High-flow nasal cannula (HFNC) therapy is widely used in several clinical settings. Nevertheless, its use in thoracic trauma patients is not well defined, due to the lack of selected series of patients in the literature and to the on-going debate surrounding non-invasive ventilation itself.

In this study, we investigated HFNC therapy in mild to moderate thoracic trauma patient, looking for improvement in the respiratory rate (RR) and oxygenation and checking for complication such as need to place a chest tube for embo-pneumothorax during the stay.

Methods:

This is an observational study. We enrolled patients with mild to moderate thoracic trauma in our subICU of a Trauma Center. Selection criteria were more than 3 distal rib fracture at CT scan, 1st or 2nd rib fracture with clavicle or scapula fracture (floating shoulder). We treated them with HFNC (AIRVO® 2 Fisher and Paykel) for at least 48 hrs.

HFNC therapy was applied at a flow of 60 L/min and minimal FiO₂ to maintain an oxygen saturation of 94% or more. We checked oxygen saturation (SO₂), RR, blood gas analysis (BGA) at baseline and after 24 hrs.

Results:

We enrolled 90 patients (median age 59 ± 16 yrs) among these 76 (84%) were male. Forty-five patients (50%) were transferred to a ward, 41 (46%) discharged, 2 (2%) moved to ICU and 2 (2%) died. Thoracic Trauma Severity Score was 9 ± 2. APACHE II was 7 ± 6. Length of stay (LOS) in subICU was 5 ± 2 days, mean hrs of HFNC therapy was 49 ± 25. Baseline pO₂ was 71,10 ± 19,38 mmHg, RR 22 ± 6, whereas after 24 hrs of treatment pO₂ increased (96,41 ± 33,11 p < 0,005), and

RR decreased (18 ± 2 $p < 0,005$) statistically.

Among the 90 pts, only 18 (20%) need to place a chest tube for emo–pneumothorax during the stay.

Conclusions:

As main result, we observed that HFNC improve SO_2 and reduce RR in patients with mild to moderate thoracic trauma. In these patients, pain and supine position often impair the dynamic respiratory function as well as the ability to cough, leading to atelectasia, lung contusion, pneumonia and ARDS. HFNC delivers warm and humidified gas which helps to keep the secretions fluid and make coughing easier and less painful. HFNC also develops a positive end–expiratory pressure which is not harmful, in fact only 20% of all patients develop emo–PNX during the stay. Further study is needed to compare HFNC to other non–invasive ventilatory strategy (CPAP/ Bilevel NIV, standard oxygen therapy) in thoracic trauma patients in order to assess which support is superior in terms of improving oxygenation and prevent complication such as atelectasia, lung contusion, pneumonia and ARDS.

#23158 : Non-technical skills debrief tool in Paediatric Emergency Medicine**Authors:**

Sean Kelly (1), Natalie Bee (1)

1. Emergency Department, Royal Hospital for Children , NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Keywords: Debrief, non-technical skills, Paediatric Emergency Medicine

Abstract :**Background**

Debriefing is a widely recognised method of developing non-technical skills and providing an element of psychological safety in the workplace. It is incorporated into Resuscitation Council Advanced Paediatric Life Support courses and has an increasingly expanding role in Paediatric Emergency Medicine (PEM). The use of hot and cold debriefs for paediatric cardiac arrests in the Royal Hospital for Children in Glasgow is well established. However if debrief is limited to cardiac arrest cases then this learning method becomes a rare event in PEM.

We aimed to focus on non-technical skills rather than clinical decision making which is covered by workplace-based assessment and reflection in trainee E-Portfolios.

Method

We issued a 6 question survey investigating current experience of debrief in the department to the last cohort of trainees using SurveyMonkey®.

Based on these results we implemented a new, trainee or consultant initiated debrief tool which focusses on non-technical skills. We focussed initially on cases in the Resuscitation and Majors areas of the department. Both the leader who led the debrief and the trainees involved completed an anonymous feedback questionnaire after each debrief.

Results

22 (85%) of the 26 trainees completed the survey. 70% of trainees reported that debriefs happened once a month or less. 73% of trainees feel that debriefs provide feedback on non-technical skills, an increase in moral and psychological support. 100% of the respondents see a debrief as a positive tool for learning.

In a 5 week period 14 debriefs have been completed on a range of scenarios including child protection, difficult communication with parents and challenging interactions with specialty colleagues. 43% of the trainees were above the level of ST3 and 57% ST1/2/clinical fellows. The debriefs were all led by either consultants or an ST7.

100% of the trainees found the debrief event subjectively useful with an objective mean score of 4.8/5 for usefulness. 64% felt it had improved their Task Management skills with 71% reflecting that it had increased their Situational Awareness.

100% of trainees felt the debrief had a positive impact on morale with 93% of debrief leaders agreeing.

The debrief leaders generally found them easy to lead with 86% rating 1-2/5 on a Likert scale with 5 being most challenging. There was one outlier result of 4/5 associated with accommodating the debrief into a busy shift. The mean objective debrief leader score of trainee engagement was 4.8/5, showing that the trainees were consistently well engaged with the process.

Conclusion

In our cohort there was consensus amongst the trainees that debrief is a positive learning tool and something that could occur more frequently in our department.

The feedback suggests that 100% of trainees so far involved have felt this boosted their morale with 93% of team leaders agreeing and finding it not challenging to incorporate the tool into their clinical practice.

Therefore, we feel this tool is worthy of further use and expansion into different departments for further assessment of its impact.

This is an ongoing initiative in our department.

Trial Registration / Funding Information (only) :

n/a

#23159 : Risk-stratification strategy for the chest pain patients with Initial Troponin T in the Grey Zone in Emergency Department

Authors:

Attila Pandur (1), Agnes Pandur-Sarkany (2), Bence Schiszler (1), Jozsef Betlehem (1), Gabor Priskin (3), Balazs Radnai (1)

1. , University of Pecs, Pecs, Hungary

2. , Emergency Department, University of Pecs, Pecs, Hungary

3. University of Pecs, Emergency Institute, Pecs, Hungary

Keywords: chest pain, grey-zone, emergency care

Abstract :**Background/introduction:**

According to the latest WHO statistics, in 2016 the most common cause of death was ischemic heart disease globally. In Hungary, the KSH gathers these information, and based on their findings in 2017, the global instance is followed. The enormous numbers of patients with the acute form of ischemic heart diseases, called acute coronary syndrome (ACS) puts great pressure on the emergency departments. The latest ESC guideline supposes the use of hs-cTn assays. The cut-off value is 99th percentile, above that the diagnosis of myocardial infarction is made. However elevated, but lower than 99th values (grey zone) are advised to be remeasured after 3–6 hours. The process although may be unnecessary for those of certain risks or conditions.

Purpose:

The aim of our study is to determine whether the waiting time of remeasuring of hs-cTn assays in the case of grey zone can be shortened by ruling in or out patients of NSTEMI diagnosis thus saving myocardium or resources.

Methods: We retrospectively collected data of 300 patients between 01.01.2015–31.12.2018 presenting to the emergency department of Pecs whose troponin levels were measured due to the symptoms and the initial levels were in the grey zone. Data collected included demographics, clinical data, TnT levels and outcome. Primary outcome was the proportion of patients who had a serial TnT rise consistent with ACS. Data were analyzed with a SPSS 24.0 statistical software. In our study, chi-square test, Independent-Samples T-test, ANOVA, correlation interpretation were performed. P values of < 0.05 were considered to be statistically significant.

Results: 147 (49 %) men and 153 (51 %) women patient-documentation were participated in the study. The average age is 71 years. Of the 300 selected patients with baseline Troponin T values between 14 and 53 ng / l, 112 had PCI, of which 58 had coronary artery occlusion. In these patients, the time spent in the emergency department was 6 hours 26 minutes. According to the post-calculated HEART score, they were in the low and intermediate groups. (P=0,03) The complaints lasted an average of 44 minutes, with 70% of the chest pain being the leading complaint. The modified HEART score, in which we weighted each factor was 94% negative predictive value. (P <0.05)

Conclusions: Our study shown the modified HEART score have a great NPV. The HEART score facilitates accurate diagnostic and therapeutic choices. The HEART score is an easy, quick and reliable predictor of outcome in chest pain patients. Clinical decision-making should be guided by clinical features and serial TnT measurement.

#23160 : Lack of non-cognitive skills training is a major drawback for patient satisfaction in a tertiary emergency department in Greece.

Authors:

Maria Petrodaskalaki (1), Stylianos Stavroulakis (2), Panagiotis Agouridakis (3), George Notas (3)

1. Department of Healthcare quality, University Hospital of Heraklion, Heraklion, Greece
2. Emergency Department, University Hospital of Heraklion, Heraklion, Greece
3. Associate Professor, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece

Keywords: Emergency department, patient satisfaction, non-cognitive skills

Abstract :

Introduction and purpose: Patient satisfaction is an important indicator of the quality of care provided in the emergency department (ED). Greece is a country that has only recently recognized Emergency Medicine (EM) as a subspecialty but no official training program has been initiated yet. Therefore, all doctors in Greek EDs are specialized in other disciplines and provide EM services as part of their department's coverage of the ED, while only a minority of them are actually employed by the ED. The lack of specialized Emergency Physicians (EPs) may lead to less patient-centered approaches due to the absence of specific training in ED non-cognitive skills. The aim of this study was to evaluate patient satisfaction in the ED of a tertiary hospital in Greece and to compare our findings with those in similar NHS surveys, where EM has been an independent discipline for many years. **Method:** We performed a randomized, cross-sectional survey, using a sample of ED patients (age 16 and above) presenting to the emergency department of an academic tertiary hospital during a period of 2 months. We used a modified NHS quality of care questionnaire based on the related 2004 NHS survey and also compared our results with the 2016 UK data. The study questionnaire included 51 questions. Descriptive and analytical statistics were performed with SPSS version 21. **Results:** Of the 760 patients who received ED services during the study period and were

asked to participate in the survey, 200 responded. Most responders were female (46,1%), age range XX-ZZ and mostly of Greek origin (91,0%). Compared to the 2004 and 2016 NHS surveys, our cases were of lower acuity, younger and in better self-perceived general health. Although no major differences were identified in waiting times, in the total duration of the ED visit and pain management, patients in our center were more likely to report that they were not satisfied with the time they had to discuss their health problems with the doctor (37% vs 66%) and the explanations provided (41% vs 67%). They were also more likely to report that the ED staff talked in front of them as if they weren't present (38% vs 17%), that they weren't given enough privacy during examination and treatment (44% vs 80%), that they weren't involved as much as they wanted in the decisions about their care and that only a minority of the ED staff introduced themselves (44% vs 90%). They also reported less trust in the doctors compared to the UK data (43% vs 75%) and less satisfaction with the way the ED dealt with their problem (37% vs 68%) **Conclusion:** In the absence of a long-standing Emergency Medicine culture, patients tend to be less satisfied with the ED services provided and report less confidence in the doctors treating them. Lack of EM non-cognitive skills training is a major setback in the quality of services provided in Greek EDs.

Trial Registration / Funding Information (only) :

The study was not registered (it is a non-clinical study) but went through an ethics review by the local ethics committee (Bioethics committee of the University Hospital of Heraklion). There was no funding.

#23161 : An Unexplained Sleepiness and Dizziness may be Early Sign of Cerebellar Infarction.**Authors:**

Islam Elrobaa (1), Islam Elrobaa (2), Mahmoud Saqr (3)

1. adult Emergency , HMC , alwakra, Qatar
2. adult Emergency , HMC , Alwakra, Qatar
3. Emergency Medicine , Hamad Medical Corporation , HMC , Doha, Qatar

Keywords: sleeping , dizziness , second visit , constricted pupil , cerebellar infarction

Abstract :

This is case Interesting to recognise the early or pre stage of cerebellar infarction.

Many of literatures mentioned possibility of drowsiness in case of cerebellar infarction. In our case we reported a 47 years old gentleman presented 2 times in our emergency for dizziness and much sleeping . The plain CT brain during first visit showed unremarkable study. After two weeks ,he came back with same symptoms and more deep sleeping and constricted pupil. The second plain CT brain showed cerebellar infarction. The MRI brain Showed: bilateral cerebellar hemisphere infarction, acute thrombosis in right vertebral artery , narrowing at proximal basilar artery and posterior circulation embolic phenomena. The carotid Doppler US was normal.

The learning points are:

- May MRI is require in central dizziness or central vertigo case .
- Unexplained much sleeping and dizziness sign need further evaluation for vascular supply of posterior brain circulation and vertebral artery . Like CT angio and Ultrasound Doppler
- Emergency physician should be aware about the simple sign and unexplained symptoms may guide to serious disease.
- Repeated CT scan with comparison between it and the old one may helpful to detect any significant changes with the persistent symptoms.
- Evidence of depressed conscious level needs immediate clinical attention.

#23162 : Patterns of Heroin Exposures with Severe Adverse Events Reported to the U.S. Poison Centers

Authors:

Saumitra Rege (1), Woods Margaret (2), Jennifer Ross (3), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA
2. , The University of Virginia , Charlottesville, USA
3. Division of Medical Toxicology, Department of Emergency Medicine , University of Virginia, CHARLOTTESVILLE, USA

Keywords: Heroin, Drug Misuse, Epidemiology, Poison Centers

Abstract :

Background: Heroin use in the United States has increased significantly with over 15,000 deaths in the year 2018. According to the National Survey of Drug Use and Health, the past year prevalence of heroin use was 0.3 per 100 persons in 2018. We sought to characterize the heroin exposures reported to the U.S. National Poison Data System (NPDS) which resulted in severe adverse events (SAEs).

Methods: The NPDS was queried for human exposures to heroin reported to the U.S. Poison Centers (PCs) between 2008 and 2018. Cases that resulted in fatalities or major medical outcomes were classified as SAEs. We descriptively assessed the demographic and clinical characteristics. Trends in heroin exposures with SAEs were analyzed using Poisson regression with percent changes being reported. Independent predictors of SAEs were studied using multivariable logistic regression with adjusted odds ratios (AOR) reported.

Results: There were 49,839 heroin exposures reported to the PCs from 2008 to 2018, with the number of annual exposures with SAEs increasing from 293 to 1,533 during the study. Single substance exposures accounted for 52.2% of heroin exposures with SAEs. Approximately 79% of SAE calls were reported from acute care hospitals and Emergency Departments (EDs). Of the patients reporting heroin exposures with SAEs, 39.4% were admitted to the critical care unit (CCU). Residence was the most common site of exposure (75.9%), and 85.7% of these cases were enroute to the hospital via EMS when the PC was notified. Among the SAE exposures, 69.5% were male, with individuals most commonly being between the ages of 20 and 29 years (42.2%). Intentional abuse (78.5%) and suspected suicides (10.3%) were commonly observed reasons for exposure. During the study period, the proportion of heroin abuse exposure cases increased (70.1% to 79.9%), while suspected suicides decreased (15.7% to 9.1%). There was a 2-fold increase in the number of annual deaths due to heroin. The most frequently co-occurring substance was benzodiazepines (12.9%). During the study period, the rate of heroin exposures with SAEs increased from 11.9 to 80.2 (per 100,000 human exposures) ($p < 0.001$). Patients over 60 years of age (Ref: 20 – 29 Years) (AOR: 1.30, 95% CI: 1.11 – 1.51) and males (Ref: females) (AOR: 1.09, 95% CI: 1.04 – 1.15) were at a significantly higher risk of SAE. Other factors that increased the odds of SAEs were 3 or more exposure substances (Ref: single substance exposures) (AOR: 2.36, 95% CI: 2.13 – 2.16), presence of additional opioids in exposure (Ref: No additional opioids) (AOR: 1.23, 95% CI: 1.14 – 1.33), and intentional abuse (Ref: unintentional exposures) (AOR: 1.56, 95% CI: 1.44 – 1.68).

Conclusion: There was a significant increase in the reports of heroin exposures with SAEs during the study which may be a result of multiple factors including the cheaper cost of heroin and the adulteration of heroin with fentanyl and analogs. Several key characteristics, including reasons for exposure and the presence of co-occurring opioids significantly increased the risk of SAE. Greater intervention and awareness initiatives are needed considering the severity of overdoses.

Trial Registration / Funding Information (only) :

N/A

#23163 : Fluid therapy of burn patients in the prehospital care

Authors:

Attila Pandur (1), Agnes Pandur-Sarkany (2), Bence Schiszler (1), Jozsef Betlehem (1), Gergely Szeckler (3), Balazs Radnai (1)

1. , University of Pecs, Pecs, Hungary

2. , Emergency Department, University of Pecs, Pecs, Hungary

3. University of Pecs, Emergency Institute, Pecs, Hungary

Keywords: prehospital care, Parkland-formula, burn

Abstract :

Introduction: In severely burnt patients, it is important to focus on fluid resuscitation, not just pain relief, because a burnt patient loses a big amount of fluid. Our study's purpose is to find out how much fluid did these patients get during the prehospital care.

Methods: We included those patients who suffered an at least 20% second, third degree burn, and their fluid resuscitation started in the prehospital phase. We did our study with document analysis. We checked the documents from 2008.01.01. to 2018.12.31. With the help of including and excluding criterias we could include 104 people (n=104). For data analysis we used Microsoft Word and Excel 2016 and SPSS version 25.0. For statistical tests, we used correlation, Chi-square test and independent T-test.

Results: In this study there were 70 male (67,3%) and 34 female (32,7%) patients. The average age was 56,59 years. Patients suffered an average 31,90 % burn. In the prehospital care these people got averagely 1315,84 ml fluid. The 32,7% of the patients died during hospital care. We found that TBSA (total burn surface area) correlate significantly with surviving ($p < 0,01$). Surviving also correlate with almost every complications significantly ($p < 0,001$). We also found that Evans formula is more sensitive than Parkland formula, and there is a significant difference between real fluid resuscitation and recommended fluid resuscitation by the formulas ($p < 0,001$). We confirmed that Parkland formula decreases occurrence of complications. It was also clear that patients got more than twice as many fluid prehospitaly than Parkland formula would provided.

Conclusion: Evans formula is more sensitive and it would drive patients fluid management better, but in prehospital care it is impracticable due to lack of equipment. There is more chance of complications if the patients got not the right amount fluid what they're needed. Finally patients got more than twice as many fluid as it was recommended by Parkland formula in the guideline, so it is clear the prehospital medical providers didn't work as the guideline would recommend.

#23164 : The unconscious pub manager: case report

Authors:

Bert De Jaeger-Braet (1), Dries Helsloot (2), Barbara Van Ooteghem (2), Peter De Peape (3)

1. Emergency department, AZ Groeninge Kortrijk, Laarne, Belgium
2. Emergency department, AZ Groeninge Kortrijk, Kortrijk, Belgium
3. Emergency department, UZ Gent, Gent, Belgium

Keywords: carbon monoxide, intoxication, hypoxemia, tako tsubo, cardiomyopathie, confined space hypoxic syndrome

Abstract :

CASE REPORT

Our prehospital medical service was sent to a local pub where the manager and his spouse were found unconscious in the basement, shortly after they went down to change a beer barrel. While attempting to evacuate both of them, the present customers became dizzy and had to return.

After arrival of the fire brigade both of the patients were evacuated. Surprisingly no elevated CO levels were measured. However, the O₂ concentration in the basement was only 14%.

After evacuation, the pub manager and his spouse had a GCS of 7 and 3 respectively. Both had profound cyanosis with unmeasurable low spO₂. Only weak pulsations were palpable. Gentle bag- mask ventilation was started while preparing for endotracheal intubation.

But before intubation both patients became progressively more reactive and vital signs were rapidly recovering to normal.

On arrival at the emergency department a full neurological recovery was noted.

The pub manager told that he changed the carbon dioxide (CO₂) barrel of the beer tap earlier that day in the basement. The fire brigade confirmed a leak in the connection.

Arterial blood gas revealed a mild metabolic acidosis in both patients with mildly elevated lactate. pCO₂ was normal and hyperoxia was seen under oxygen therapy. ECG and lab results were within normal limits.

Both of the patients were observed overnight. No adverse events were recorded.

Upon re- evaluation in the morning, 8 hours post- event, no abnormalities were found after clinical examination of the pub manager, so he could be discharged home.

However, his spouse was complaining of increasing shortness-of-breath and tight chest pain. ECG showed negative T- waves in leads I-II-aVL-aVF. Troponins raised from 3ng/L to 153ng/L. An additional transthoracic echocardiography revealed diminished systolic left ventricular function, due to apical akinesia with aneurysmatic dilatation. During cardiac catheterization no significant stenosis was found, but a typical TakoTsubo cardiomyopathy contraction pattern was seen.

After a short admission to the cardiology ward, she could be discharged home in good condition.

DISCUSSION

CO₂ is a colourless and odourless gas. It is produced by combustion, fermentation, and respiration. In normal room air the CO₂ concentration is about 0,04%. CO₂ is heavier than oxygen and accumulates near the ground.

Extensive CO₂ release in a confined space can lead to an oxygen- deficient atmosphere causing a 'confined space hypoxia syndrome'¹, which is a rare but possible fatal condition. Associated hypercapnia will cause a toxic effect with loss of consciousness and respiratory depression.

Management includes oxygen supplement and respiratory support. Hemodynamic and neurological monitoring during several hours is indicated to check on associated pathology, such as TakoTsubo cardiomyopathy. The cause of this cardiomyopathy could be a catecholamine excess due to the acute hypoxic event and associated physical and emotional stress.²

With early and aggressive treatment, full recovery can be achieved.

CONCLUSION

When evaluating an unconscious patient found in a confined space, one should consider a 'confined space hypoxia syndrome'. Extensive CO₂ can cause an oxygen- deficient and toxic condition resulting in hypoxia and hypercapnic respiratory arrest.

#23165 : Healthcare students willingness to join relief efforts during COVID-19 pandemic

Authors:

George Teo Voicescu (1), Adela Golea (2), Stefania-Anda Popa (2), Eugenia Lupan-Muresan (2)

1. Department of Emergency Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Brasov, Romania

2. Department of Emergency Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Cluj-Napoca, Romania

Keywords: COVID-19, Pandemic, Healthcare students, Disaster relief, Disaster medicine

Abstract :

Background: In the current COVID-19 pandemic, more than 10% of the infected people are healthcare workers. This leads to an increasing need of personnel training on safety measures. Previous studies have shown that healthcare students (HCS) are a valuable resource during a disaster, being of great help to the overwhelmed medical system. However, most of the universities from the health sector do not offer any training in infectious disasters management or mass incidents. The objective of this study was to document the willingness to work (WTW) of Romanian HCS in the current COVID-19 pandemic and to evaluate the educational response of national universities to the current situation.

Methods: We have used an online survey platform to disseminate a questionnaire to the HCS (Medical, Pharmacy, Dental, Nursing, Radiology and medical imaging, Physio-kineto-therapy and rehabilitation undergraduate students) from 15 public and private Romanian universities. The survey was open for 4 days. We have evaluated the WTW of the undergraduates in the current situation, the level of information provided by the universities about the COVID-19 pandemic, HCS interest in pursuing a formal university course on disaster medicine and highly infectious diseases and the self-perception of HCS's preparedness.

Results: Of the 1623 validated answers, 1188 were females and the median age was 22.5 (SD \pm 2.87) years. Only 4.44% of the respondents consider themselves sufficiently educated on highly infectious diseases, with a slightly higher proportion (11.89%) on COVID-19. One third of the respondents state that their Universities have not provided them any COVID-19 information. Nevertheless, 75.29% of the students would like to attend a course on highly infectious diseases organized by their University.

Conclusions: Without prior training, legal frame and no direct supervision in the hospital, the HCS are facing a huge challenge. Several seriously affected countries have announced that they will include HCS in the management of the SARS-COV-2 infected patients. The current literature shows that even short, 24 hours training courses can significantly increase the knowledge level of HCS about disasters, including mass epidemics. Furthermore, receiving specific training increases the WTW of the participants in infectious diseases management. Therefore, the medical universities should rapidly adapt to the developing situation and provide relevant, practical information, consequently increasing the WTW of the HCS and improving the level of care received by the patient.

Trial Registration / Funding Information (only) :

Nothing to declare.

#23166 : Patient reported outcome measurements (PROMs) after discharge from the Emergency Department: A cross-sectional study**Authors:**

Vincenzo G Menditto (1), Roberto Maccaroni (1), Pamela Barbadoro (2), Stefano Marasca (3)

1. Emergency Department, Ospedali Riuniti di Ancona, Ancona, Italy
2. Department of Biomedical Science and Public Health, Università Politecnica delle Marche, ANCONA, Italy
3. Management Department, Università Politecnica delle Marche, ANCONA, Italy

Keywords: PROMs, Emergency Medicine

Abstract :

Introduction. Understanding patients' perspectives on the outcomes they value from ED should help physicians better meet patients' needs care and may provide important new insights into meaningful targets for improvement in quality of care. The objective of this study was to develop a model to study patients' views of their outcomes in patients with isolated trauma of the limbs receiving ED care as part of a conceptual framework of patient-reported outcome (PROs) and a set of PRO measurements (PROMs).

Materials and methods. We performed this cross-sectional study (survey). Consecutive patients > 14 years with isolated trauma of the limbs were enrolled for this study. A survey using a dedicated questionnaire among the enrolled patients has been performed in ED. The questionnaire was specifically designed to gather data to inform the development of a conceptual model: patients' expectations on their care and perspectives on the outcome of their care after their ED visit. For each item of the questionnaire we calculated the percentage of patients who agreed to judge it important. We defined core agreed outcomes those outcomes for which the grade of agreement by the patients was $\geq 85\%$. We calculated the percentage of agreed outcomes that were satisfied: for each outcome a value $\geq 85\%$ defined the ability of satisfaction by the ED system. Finally, we calculated the percentage of patients for whom the ED system was able to satisfy all the proposed outcomes and at least the "core" agreed outcomes.

Results. 96 patients completed surveys. Among the proposed outcomes, 3 items were judged important by almost 85% of the patients: getting an x-ray (91%; CI 95%: 88% to 98%), obtaining a written therapy (94%; CI 95%: 87% to 97%) and feeling the physicians and nurses' empathy (97%; CI 95%: 91% to 99%). These outcomes were the core agreed outcomes. The ED system was able to satisfy 2 of the 3 core agreed outcomes in at least 85% of the cases: getting an x-ray (97%; CI 95%: 91% to 99%) and obtaining a written therapy (97%; CI 95%: 91% to 99%). Moreover, in 30/96 patients (31%; CI 95%: 22% to 41%) all the outcomes were satisfied and in 75/96 patients (78%; CI 95%: 69% to 85%) all core agreed outcomes were satisfied.

Discussion. Our study shows an example of core of outcomes proposed by the ED physicians and agreed by the patients. In conclusion, in this article we presented a framework for ED physicians to develop a quality measurement program that will enable the ED to perform at a high level in emergency medicine practice, administration and research.

Trial Registration / Funding Information (only) :

No funding.

#23167 : Sepsis biomarkers as predictors of death in septic patients in Emergency Department

Authors:

Pietro Pozzessere (1), Battaglia Stefano (1), De Santis Antonio (2), Costagliola Claudia (1), Deluca Paola (1), Sollazzo Enza (1), Palmieri Vincenzo (3), Vito Procacci (4)

1. Medicina e Chirurgia d'Accettazione e d'Urgenza, Policlinico Hospital of Bari, Italy., Bari, Italy
2. Laboratorio di Ricerche chimico-cliniche e Microbiologiche, "S.Paolo" Hospital Bari, Bari, Italy
3. Medicina Interna Universitaria "A.Murri" , Policlinico Hospital of Bari, Italy., Bari, Italy
4. Medicina e Chirurgia d'Accettazione e d'Urgenza, Policlinico Hospital Bari, Bari, Italy

Keywords: Sepsis, proadrenomedullin, presepsin

Abstract :

Introduction Sepsis and septic shock remain a major healthcare problem worldwide, with high mortality rates. For this reason many biomarkers have been investigated in accordance with precision medicine concept. There is no golden standard biomarker for sepsis and septic shock patients in term of diagnosis and prognosis at present. For this reason in this paper we have evaluated the role of various sepsis biomarkers in the initial evaluation of these conditions.

Aim of the study: evaluating the short/long term prognostic role (28 and 90 days) of different sepsis biomarkers in a cohort of septic patients observed in an Emergency Unit

Results: It is a prospective study. Fourty-five adult patients with suspected infection entering in Policlinico ED in Bari were enrolled. They were classified in infected (5 patients), septic (37 patients) and with septic shock (3 patients) according Sepsis-3 classification. The mortality rate at day 28 was 28,8% while the mortality rate at day 90 was 40%. C-Reactive Protein (PCR), Procalcitonin (PCT), Presepsin (PSP) and proAdrenomedullin (pADM) measurements were taken in the day 1, 2 and 7. Dynamic changes of every biomarkers were defined as the differential between the subsequent and initial measurements. Among the markers the initial PSP value has the most important predictive value (value >800 pg/ml at day 28 AUC 67,7 at day 90 AUC 0,80). Univariate analysis demonstrated that CRP levels at day 7 [HR (95% CI):0.86 (0.77-0.97),p=0.01], proAdrenomedullin differential [HR (95% CI): 1.05 (1.00-1.11),p=0.04], are independent predictors of death. On the other hand, 90- survival time was influenced by CRP levels at day 7 [HR (95% CI):0.91 (0.84-0.98), p=0.02], differential value of serum Procalcitonin [HR (95% CI) 1.04 (1.00-1.09), p=0.04], proAdrenomedullin differential [HR (95% CI):1.05 (1.01-1.09), p=0.01], presepsin at admission [HR (95% CI):1.00 (1.00-1.00), p=0.04].Sepsis score (SIRS, Qsofa and SOFA) are all independent predictors of 28- and 90 survival time. Multivariate analysis showed that pADM differential [HR (95% CI) 1.36 (1.10-1.66),p=0,003], Serum Procalcitonin differential [HR (95% CI) 1.24 (1.01-1.51) p=0,03], and number of SIRS criteria are significant predictors for either 28 and 90 days survival time.

Conclusions: Presepsin is the only marker giving us clear indications in ED about severity and mortality risk of septic patients while pADM differential is the most important independent variable that give us informations during clinical course of these patients.

#23168 : Ischemic Stroke in Malignancies: Incidence and Type of Malignancy

Authors:

Evvah Karakılıç (1), Engin Özakın (1), Seda Bozdoğan (2), Ali Deniz Erbil (2)

1. Emergency Medicine, Eskişehir Osmangazi University School of Medicine, Eskişehir, Turkey

2. Emergency Medicine, Eskişehir Osmangazi University, School of Medicine, Eskişehir, Turkey

Keywords: Ischemic Stroke, Malignancies

Abstract :

Background: Cerebrovascular disease is common in cancer patients. Because cancer and stroke share similar risk factors and treatment of cancer can increase the risk of stroke. In this study, we aimed to reveal the incidence and the type of malignancy in patients with acute ischemic stroke admitted in our emergency department.

Methods: In this retrospective cross-sectional study, in five years period (January 2015-December 2019), we found 4310 cases with ischemic stroke patients admitted to the emergency department. Patients with incomplete information were excluded from the analysis. One hundred forty-six of the 4310 patients were included in this study. The demographic characteristics and malignancy of these patients were noted. Malignancies detected in the patients were classified according to WHO Classification of Tumors.

Results: The mean age of 146 patients was 69.5 ± 10.9 years and 83 (56.8%) were man. 3.4% of patients with ischemic stroke had malignancy. Most common malignancy group was "Tumours of the Lung, Pleura, Thymus and Heart". In this group, there were no thymus and heart malignancy. The second most common malignancy group was "Digestive System Tumours". In this group, the most frequent colon and stomach carcinoma (Table 1).

Discussion & Conclusions: There are several hypotheses explaining the cause of ischemic stroke in cancer patients. Common risk factors in lung cancer and ischemic stroke patients such as cigarette and obesity may lead to acute cerebral vessel occlusion in the presents of underlying large vessel atherosclerotic disease. Moreover, hypercoagulable state due to cancer especially in digestive system malignancies may be the cause of ischemic stroke. Ischemic stroke with malignancy incidence is not low and these patients have longer follow up time and may highest risk of fatal stroke. In conclusion, the association between active cancer and stroke should be kept in mind.

Table1: Localizations of malignancy in ischemic stroke

#23169 : Proximal Rectal Abscess Presented as Intestinal obstruction Case in our ED**Authors:**

Islam Elrobaa (1), Islam Elrobaa (2), Abdulhadi khan (2), Mazen Almousa (2)

1. adult Emergency , HMC , alwakra, Qatar

2. adult Emergency , HMC , Alwakra, Qatar

Keywords: abdominal distension , constipation , abdominal pain , bloat abdomen

Abstract :

This is interested case to learn other disease may has differential diagnosis with intestinal obstruction in sign, symptoms even in x ray image

We reported a 48 years old gentleman presented with abdominal pain and distension, bloating abdomen , constipation since 8 days but the pain started since 2 days , he denied any nausea or vomiting. . No co morbidity. The x ray showed dilated bowel with air fluid level. CT scan showed perforated rect mass pre colonic . The patient underwent to Hartmann's operation. The surgical pathological result reported perforated abscess may result of diverticular disease.

Learning point:

- This case has interested x ray image look like intestinal obstruction case
- The proximal rectal mass or big abscess pre colonic may present as intestinal obstruction case in symptoms and sign.
- The Emergency physician should be aware about the differential diagnosis of intestinal obstruction
- The diverticular disease and diverticulitis should have good treatment to prevent the serious complication that lead to colonic perforation.

Attachment: photo_2020-03-30_22-07-53.jpg

#23170 : Pneumonia severity index class III pneumonia. Evaluation of safety and applicability of an android application for home monitoring of patients needing short term observation.

Authors:

Maria Plaiti (1), Grigoriou Anna (1), Margherita Antona (2), Iosif Klironomos (2), Panagiotis Agouridakis (3), Constantinos Stefanidis (2), George Notas (3)

1. Emergency Department, University Hospital of Heraklion, Heraklion, Greece
2. Laboratory of Ambient Intelligence, Foundation for Research and Technology, Institute of Computer Science, Heraklion, Greece
3. Associate Professor, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece

Keywords: Community Acquired Pneumonia, telemedicine, short term care

Abstract :

Introduction and purpose: Current guidelines suggest that decisions regarding hospitalization of patients with community-acquired pneumonia (CAP) should be based on scoring systems like the Pneumonia Severity Index (PSI). PSI class III patients are a borderline group that is recommended to be offered short term inpatient observation. However, this leads to the use of hospital resources that could be avoided. The purpose of this study was to evaluate the safety and applicability of an android application for the remote/home monitoring of PSI class III pneumonia patients by ED staff. **Methods.** 15 consecutive patients with PSI class III pneumonia, admitted to the University Hospital of Heraklion ED short term care unit, were asked to use a tablet-based application designed to inform physicians for patient's pulse oximetry, temperature, beats per minute (bpm) and respiratory rate. The study did not include any other intervention and physicians were free to decide the duration of the observation and the final decision regarding patient discharge or admission. Attending physicians and nurses were asked to evaluate patient safety if the whole process had taken place at the patients' home. **Results.** Fifteen patients with PSI class III lobar CAP were recruited during the study period (8 women, 7 men), with an average age of 74.1 years (range 55-87). All patients had a SatO₂>91% at presentation. One patient had a history of COPD, 3 had diabetes, 5 had coronary heart disease, 3 had a diagnosis of congestive heart failure and two had chronic kidney disease. Nine patients were vaccinated for seasonal influenza and two for pneumococcus. All patients had arterial blood gasses evaluated at presentation with average pO₂ 69mmHg (62-77) and pCO₂ 35mmHg (26-48) with respiratory alkalosis in 11 cases (73%). Average WBCs were 9.500/ μ l (77% Neutrophils) and no patient had acute kidney injury, glucose above 200mg/dl or increased lactic acid levels. All patients were started on antibiotics and 9 patients also received salbutamol and inhaled corticosteroids. All patients registered in the application up to 3 measurements of pulse oximetry, temperature, bpm, and breaths per minute, although 9 patients reported that they asked a family member to help them. No patient reported oxygen saturation below 91% or any other emergency. At the end of the observation period, 3 patients were admitted and 12 were discharged. It was estimated that all cases that were admitted could safely come from their home within 30 minutes. In all but 2 cases (both discharged) the nurses responsible for patient observation and the attending physicians estimated that although the patient was eligible for the trial he/she should probably not be trusted for various reasons. Overall, 75 hours of short term care bed occupancy could be saved with such a remote monitoring system. **Conclusions.** A simple tablet or smartphone android application accompanied by a pulse oximeter and a thermometer can be used safely for the remote monitoring of PSI class III patients as an alternative to short term admission for observation. Such applications may help in the protection of hospital resources and decrease healthcare costs.

Trial Registration / Funding Information (only) :

The trial is no registered (feasibility study) but went through ethics approval from the local ethics committee. The study was funded by the Greek Ministry of Economy and Development (ESPA 2014-2020, KRHPIS II, Quality of Life)

#23171 : Chest pain- atypical presentation for acute coronary syndrome**Authors:**

Nicoleta Cretu (1)

1. Leicester Royal Infirmary Hospital , Leicester, UK, Leicester University Hospitals Trust, Leicester, UK, Leicester, United Kingdom

Keywords: NSTEMI

Abstract :

57 years old male presented in the Emergency Room via ambulance with 6 hours history of right shoulder pain after working in the garden.

Vital signs revealed: HR=40bpm, BP=168/67mmHg, SpO2=98%RA, GCS=15/15, T=37.

On examination the patient reported right shoulder pain on movement with irradiation on the anterior right side of the chest- the first episode in his life. The patient didn't know to have significant past medical history and he didn't have any regular medication at home.

The investigations in the ED showed an ECG with minimal ST depression in V1 to V5 territory with the first High sensitivity Tnl of 5.8 after 3 hours after the onset of chest pain. The second Tnl after 6 hours after the onset of the chest pain was 47.1.

Diagnosis of NSTEMI was made, advised from the Cardiology consultant present in the ED was requested and the patient was admitted and transferred to the Cardiology department. He was treated with Aspirin, Ticagrelor, Clexane, small dose of Morphine iv.

The third Tnl was repeated in the following day after the onset of the chest pain and was reported as 30.533. Coronary angiogram was performed with PCI on the Left Circumflex coronary artery which had severe stenosis proximally with another segment of severe stenosis in the mid vessel. After this intervention the bradycardia was corrected.

The patient was discharged home with permanent treatment with: Aspirin, Atorvastatin, Bisoprolol, Ticagrelor, GTN. An echo was performed before the patient was discharged home which showed fixed perfusion defect in the lateral-inferior wall and reduced motion and thickening with associated infarction.

This case had as particularity the atypical presentation with musculoskeletal shoulder/chest pain with associated ischaemic ECG changes in the lateral territory and bradycardia. Despite the fact that the first and second hTnl weren't very raised and the ECG changes didn't show a STEMI, the patient required PCI and treatment as per a STEMI presentation. Also, the significant raised hTni appeared only 24 hours after the onset of chest pain, secondary to which PCI was performed and reperfusion of the LCx was obtained.

The learning points from this case are that we have to be very vigilant in the patients of age group more than 50 years old when they can present in the ED with apparent musculoskeletal chest pain(after physical exertion), in order to pick up a possible cardiac event. A high index of clinical suspicion corroborate with ECG changes, symptomatology , hTnl levels and bed-side echo will increase the probability of appropriate diagnosis and treatment for this patients.

#23172 : Compliance of Greek emergency departments with the European Society for Emergency Medicine Guidelines for end of life care.

Authors:

Emmanouil - Fanourios Markakis (1), Panagiotis Agouridakis (2), George Notas (2)

1. Emergency Department, University Hospital of Heraklion, Heraklion, Greece
2. Associate Professor, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece

Keywords: end of life care, guidelines, compliance

Abstract :

Introduction: The concept of end of life (EoL) care, which is care offered to patients during the end of their lives, includes a combination of medical, psychological, social, emotional and spiritual care, both for the patient and those close to him. Compared to previous decades, it is more common nowadays for patients with acute diseases capable of producing death, or patients with the progression of a terminal illness, to visit an Emergency Department (ED) for care close to their EoL. EuSEM has recognized the importance of this issue by developing specific guidelines for EoL care in the ED. It is important to understand the current weaknesses of Greek EDs in EoL care in order to organize appropriate and more humane healthcare services. **Purpose:** The purpose of this study was to evaluate the compliance of Greek EDs with EUSEM EoL care guidelines. **Methods:** A questionnaire with 43 questions, based on the EUSEM guidelines on EoL care, was sent to either the head physician or the head nurse of all Greek hospitals with independent EDs. Pediatric, psychiatric, and other special hospitals were excluded. **Results:** 50 out of the 84 eligible hospitals responded to the survey (60% of all Greek hospitals, >70% population coverage). Only 18% of EDs reported having formal communication instructions for the staff regarding EoL issues and 22% reported having some form training in announcing a patient's death. Although 80% of EDs reported that their physicians were able to identify EoL patients and in 72% discussions for advanced care-planning is performed, in less than 20% these discussions are formally recorded and in less than 30% "Do Not Attempt Resuscitation" (DNAR) decisions are documented. Around 60% of the EDs reported discharging patients with a care plan to die at their home and written discharge instructions. In more than 80% of the EDs a senior physician is responsible for EoL issues, EoL decisions (if nobody else can take them for the patient) and the announcement of a death. However, only in a minority of Greek EDs family is included in EoL decisions or discussions. 78% of EDs reported ignorance for the legal status of DNAR orders in Greece and only 14% had access to legal advice. In most cases (92%) DNAR is decided by a senior specialist, but in 34% CPR is continued if the family insists, and in 22% CPR is performed even against expressed patient wishes. 38% provide palliative care but only 12% have an organized checklist. Most Greek EDs do not have special rooms for the family during EoL situations but 66% have facilities for their cultural and spiritual needs. Finally, in 62% of EDs, staff members are encouraged to talk about EoL events. **Conclusion :** Greek EDs should further improve EoL care. Our study shows that there are several improvements that could be made in communication training, discussion/decision recording, DNAR management, dedicated use of space and support of ED staff on legal and stress-related EoL issues.

Trial Registration / Funding Information (only) :

This is not a registered trial (non-clinical research). No ethics approval was needed since only administrative data were collected. There was no funding provided for this study.

#23173 : The diagnosis of carotid and vertebral artery dissections by emergency physicians is rare

Authors:

Nikhil Jain (1), Barnet Eskin (1), JOHN ALLEGRA (2)

1. emergency medicine, Morristown Medical Center, Morristown, USA

2. , Morristown Medical Center, MONTVILLE, USA

Keywords: carotid artery dissections, vertebral artery dissections, emergency medicine

Abstract :

Background: Carotid and vertebral artery dissections are rare events. The most frequent symptoms are head and neck pain and neurological deficits, but these are common emergency department (ED) chief complaints and other diseases causing these occur much more often. Furthermore, about one-third of patients have no headache, one-third have no neck pain and over 10% have no neurologic deficits. For these reasons, diagnosing dissections is challenging. We wished to quantify the magnitude of this problem in a large ED database. Our goal was to determine the number of total ED visits for every carotid and vertebral artery dissection diagnosed by ED physicians.

Methods: Design: Multicenter retrospective cohort. Setting: 27 suburban and urban New York and New Jersey EDs with annual visits between 20,000 and 119,000. Population: Patients seen by ED physicians in the four year period from 11-1-2015 through 10-31-2019. Protocol: We identified carotid and vertebral artery dissections using ICD-10 codes. Data Analysis: We calculated the number of ED visits for every carotid and vertebral artery dissection, along with 95% confidence intervals (CIs).

Results: From a database of 6,223,499 ED visits, we identified 115 carotid artery dissections and 97 vertebral artery dissections. The median ages (with interquartile ranges) and percent female of carotid and vertebral artery dissection patients were 54 years (41, 64), 47 years (38, 63), and 55% and 51%, respectively. Of the total ED visits there was one carotid artery dissection for every 54,117 (95% CI 45,089 to 64,953) visits and one vertebral artery dissection for every 64,160 (95% CI 52,599 to 78,261) visits.

Conclusion: The diagnosis of carotid and vertebral artery dissections by ED

physicians is rare. An ED physician seeing 3,000-4000 patients a year would diagnose one carotid artery dissection every 13 to 18 years and one vertebral artery dissection every 16 to 21 years.

Trial Registration / Funding Information (only) :

None

#23174 : Characterizing the Opioid-related Mortality in the United States using a National Poison Database

Authors:

Saumitra Rege (1), Ames Sarah (2), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA
2. , The University of Virginia , Charlottesville, USA

Keywords: Opioids, Mortality, Poison Centers, Risk Markers

Abstract :

Objective: Opioid-related deaths are one of the leading causes of accidental deaths in the United States with 70,237 fatalities in 2017 and the age-adjusted rate of drug overdose deaths increasing by 16% each year between 2014 and 2017. There were 8,238 overdose deaths in the European Union in 2017. This study aims to characterize the opioid-related mortality reported to U.S. poison centers (PCs).

Methods: A retrospective study was conducted using The National Poison Data System (NPDS), querying it for human exposures to opioids between 2011 and 2018. We descriptively assessed the demographic and clinical characteristics of exposures. Temporal trends in the frequency of opioid reports were evaluated by using a generalized linear mixed model with a Poisson distribution. Independent predictors of opioid mortality were studied using logistic regression. Adjusted odds ratios (AOR) and the corresponding 95% confidence intervals (95% CI) were reported.

Results: There were a total of 604,183 opioid exposure calls made to the PCs during the study period. The frequency of opioid exposures decreased by 28.9% (95% CI: -29.6%, -28.1%; $p < 0.001$), and the rate of opioid exposures decreased by 21.2% (95% CI: -24.7%, -16.9%; $p < 0.001$). There were 7,246 deaths in our study sample (1.2%), with 6.8% of cases demonstrating major effects. Among opioid-related deaths, there was a greater proportion of cases demonstrating poly substance exposures (80.7% vs 48.7%), including multiple opioids (24.9% vs 7.4%) as compared to non-fatal exposures. Cases between ages 30 – 39 years (19.9% vs 15.3%) and males (55.4% vs 44.5%) were more common in the exposures that resulted in deaths. Intentional abuse accounted for approximately half of the opioid-related deaths. Hydrocodone exposures were most frequently observed and naloxone was a commonly used therapy. The risk of opioid-related death was the highest in cases between 50 and 59 years of age (Ref: 20 – 29 years) (AOR: 2.53, 95% CI: 2.34 – 2.75). Conversely, cases under 6 years of age (AOR: 0.46, 95% CI: 0.35 – 0.60) were 54% less likely to have a fatal opioid exposure. Males were 16% more likely than females to have a fatal overdose (AOR: 1.16, 95% CI: 1.10 – 1.22). Poly-substance exposures significantly increased the risk of mortality with the odds of death increasing 10-fold in cases exposed to 4 or more substances. Other important predictors of an opioid-related death were intentional abuse (Ref: Unintentional exposure) (AOR: 4.92, 95% CI: 4.58 – 5.28), parenteral route of administration (Ref: Ingestion) (AOR: 3.52, 95% CI: 3.18 – 3.90) and exposure in the west census region of the U.S. (Ref: Northeast region) (AOR: 2.59, 95% CI: 2.36 – 2.86).

Conclusions: Analysis of calls to U.S. PCs indicated a decreasing trend of opioid exposures. Several demographic and clinical factors increased the risk of a fatal overdose. Opioid-related deaths demonstrated a high risk among intentional reasons for exposures and occurred in older age groups. Continued surveillance of opioid-related adverse events is key to highlight changes in the patterns of such adverse events while also ensuring the implementation of timely and tailored responses.

Trial Registration / Funding Information (only) :

N/A

#23175 : X ray abdomen is required in Drowsy Transient Passenger patient.

Authors:

Islam Elrobaa (1), Islam Elrobaa (2), Elfadel Hmad (3), Sunil Pichad (4), Fadl Al Tairy (4)

1. adult Emergency , HMC , alwakra, Qatar
2. adult Emergency , HMC , Alwakra, Qatar
3. Emergency Medicine , HMC , Alwakra, Qatar
4. Emergency Medicine , Hamad Medical Corporation , HMC , Al Wakra, Qatar

Keywords: transient passenger , Drowsy , Pin point pupil

Plain films

Patient images are not involved

Abstract :

This is abdominal X ray for transient passenger patient who brought from the airport for drowsy and pin point pupil . ABCD and supportive treatment started with CT brain ,ethanol level and urine toxicology test . The ED consultant suggest abdominal X ray to rule body packer . The x ray abdomen showed huge foreign body capsules in the stomach. Patient admitted to ICU and multiple enemas required. He got mild liver injury then observed and survived. Police informed as medicolegal case .

The learning pints are:

To be aware for one of body packer presentations

Body packer may present in drowsy or dizziness transient passenger patient.

X ray abdomen may require in unexplained drowsy patient.

To be aware for medicolegal aspect of some medical case .

Attachment: photo_2020-03-30_22-16-39.jpg

#23176 : Is there a role for abdominal plain films in patients suspected of having renal colic?

Authors:

Daniel Johnson (1), Barnett Eskin (1), JOHN ALLEGRA (2), Sean Calhoun (3)

1. emergency medicine, Morristown Medical Center, Morristown, USA

2. , Morristown Medical Center, MONTVILLE, USA

3. radiology, Morristown Medical Center, Morristown, USA

Keywords: renal colic, imaging, emergency department

Abstract :

Background: Renal colic is often very painful, but rarely dangerous. For most patients, making the diagnosis of renal colic “rules out” other potentially dangerous diseases such as aortic aneurysm and appendicitis. Non-contrast computed tomography (NCCT) has been touted as the best radiology test for renal colic, but has high cost and radiation exposure. The abdominal x-ray (KUB) together with renal ultrasound have been proposed as an alternative to NCCT. We sought to determine whether the KUB alone could reduce NCCT testing.

Methods: Study Design: Retrospective cohort. Population: 1000 consecutive patients from 7-1-17 to 12-31-17 who received a NCCT at a suburban community teaching hospital with annual ED visits of 90,000. Here, when a NCCT is ordered for suspected renal colic, a KUB is obtained automatically as per the hospital radiology “renal stone protocol.” (NCCTs may also be done for other reasons.) We randomly sorted 1000 records of NCCTs and arbitrarily chose the first 188; 74 had no KUB, leaving 114 for further analysis. The KUBs and NCCTs were initially interpreted together by attending radiologists. One of the radiologists re-read the 114 KUBs without knowledge of the NCCT results and reported each KUB as being positive, negative or indeterminate for ureteral stones found on NCCT (the latter usually because of problems distinguishing stones from phleboliths). We calculated sensitivities, specificities and likelihood ratios (LRs) and their 95% confidence intervals (CIs) for the diagnosis of urolithiasis for the KUB, using the NCCT as the criterion standard.

Results: The median age was 52 years (interquartile range: 41, 61); 54% were female. Fifty-one (45%) had a positive NCCT and 34 (30%) had a positive KUB. Using the NCCT as the criterion standard, the number of true positives, true negatives, false negatives and false positives for the KUB were 34, 63, 17 and 0, respectively. The sensitivity and specificity of the KUB for urolithiasis were 67% (95% CI 52, 79%) and 100% (95% CI 93, 100%), respectively. The LR_s associated with a negative and positive KUB were 0.33 (95% CI: 0.23, 0.49) and infinity (95% CI: 1.4, infinity), respectively.

Conclusion: The specificity and the positive LR for the KUB are high, so when the KUB is “positive” the diagnosis is almost certainly renal colic. Since 30% of the patients had a positive KUB, using the KUB as the initial test could reduce NCCTs by 30%.

Trial Registration / Funding Information (only) :

none

#23177 : Heart failure and emergency department discharge medication

Authors:

mohamed hedi ahmed (1), hajer yaakoubi (1), arij bakir (1), lotfi boukadida (2), anissa rzig (2), houda ben salah (1), asma zorgati (2), riadh boukef (2)

1. urgences sahloul, CHU sahloul, sousse, Tunisia
2. urgence, CHU sahloul, sousse, Tunisia

Keywords: Heart failure, discharge medication, beta blockers, reconsultation, mortality

Abstract :

Introduction: Heart failure is a major public health problem with high mortality and frequent re-hospitalization. Over the last 40 years, the management of heart failure has seen major advances; however, patient adherence to the recommendations needs to be evaluated

Objective: The value of emergency department discharge medication in the follow-up of patient is presenting with heart failure

Methods: This is an observational, longitudinal study conducted in the Sahloul Emergency Department, including any patient with a confirmed diagnosis of heart failure with LVEF >40% and Nt Pro-BNP >800 pg/ml. Cardiopulmonary ultrasound and Nt Pro-BNP analysis were performed in all patients. For each patient included, the length of stay in the emergency department, treatment, LUS score and final outcome were recorded. The outcome at one month was done by telephone or by appointment in the emergency department. Data analysis was performed using SPSS 18 software

Results: 52 patients were included in our study. The mean age was 67 ± 10 years. The mean LVEF was 49 ± 12%. The main reason for consultation was dyspnea (with an average delay of 2 days) associated with chest pain in 25% of the population, palpitations in 10% of cases and asthenia in 5% of cases. CPAP (Continuous Positive Airway Pressure) was used in 75% of patients. The mean LUS score was 29 ± 9 B lines. The mean length of stay in the emergency department was 2 days

N(%)

ACEi+ βB

ACEi/ARB

βB

Other treatments

No treatment

Number

17 (32.7)

15 (28.8)

6 (11.5)

7 (13.5)

7(13.5)

Reconsultation

2 (11.7)

2(13.3)

1 (16.6)

4 (57)

4 (57)

Mortality

0

0

0

1(14.3)

2(28.5)

Conclusion: ACEi /ARB and beta blockers, long contraindicated in heart failure, have been shown to be effective treatments

#23178 : Adherence to primary care physician follow-up among geriatric head trauma patients after hospitalization

Authors:

Gabriella Engstrom (1), Scott Alter (2), Richard Shih (2), Joshua Solano (2)

1. College of Medicine, Florida Atlantic University, Boca, USA
2. College of Medicine, Florida Atlantic University, Boca Raton, USA

Keywords: geriatric, head trauma, primary care physician

Abstract :

BACKGROUND: Primary care physicians (PCP) serve as the cornerstone for care transition in high-risk geriatric patients who are discharged from the hospital. The PCP can help patients understand care plans and adhere to medication regimens. Unintentional falls are one of the most common geriatric presentations to the ED, with over 250,000 annual visits for traumatic brain injury in the US. Given the high risk of repeat head injury in these patients, it is crucial that post-discharge PCP follow-up is completed. The aim of this study is to assess adherence to PCP follow-up in geriatric head injury patients.

METHODS: This investigation was a prospective cohort study at two level-one trauma centers, taking place from August 2019 to February 2020. Patients age ≥ 65 who suffered head trauma associated with a ground-level fall were included. Adherence to PCP follow-up was assessed during a structured telephone survey 14 days after ED presentation. Analysis by descriptive statistics was performed.

RESULTS: A total of 3,310 geriatric patients who sustained a fall were included in the study. Among the 1,019 (31%) patients who were able to be reached by telephone and agreed to participate, 599 (59%) had followed-up with their PCP since being discharged from the hospital. The mean age was 82 years (SD 8.7), half were female, and 84% were white. Out of the 599 patients contacted, 333 (56%) were patients with ED visits that did not result in hospitalization and 266 (44%) were patients with in-hospitalization stay for an average of 3.1 days (SD 4.3).

CONCLUSION: Six out of ten patients in our study completed follow-up with their primary care physician. Geriatric patients who have suffered a head injury are at high risk for repeat fall and significant injury. Many of these patients do not or are unable to follow-up with PCPs. This critical follow-up is an important factor for decreasing subsequent morbidity and mortality in these patients.

Trial Registration / Funding Information (only) :

TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT04044924 FUNDING: Florida Medical Malpractice Joint Underwriting Association (FMMJUA) Grant For Partnership In Improving The Safety Of Health Care Services #2018-01

#23179 : Prognostic value of the neutrophil to lymphocyte ratio (NLR) in patients with ST elevation myocardial infraction in the emergency departement**Authors:**

rahma jaballah (1), mohamed hedi ahmed (1), roua chouhi (2), hajer yaakoubi (1), lotfi boukadida (2), houda ben salah (1), rym youssef (2), asma zorgati (2), riadh boukef (2)

1. urgences sahloul, CHU sahloul, sousse, Tunisia

2. urgence, CHU sahloul, sousse, Tunisia

Keywords: neutrophil to lymphocyte ratio (NLR), ST elevation myocardial infraction, mortality

Abstract :

Introduction: Several studies have shown a close and consistent relationship between inflammation markers and cardiovascular disease. In fact, inflammation plays a key role in the pathophysiology of cardiovascular disease, which means that certain markers have been studied as predictors of prognosis in patients with MI.

Objective: To study the association between NLR and mortality among patients presenting to the Emergency Department with myocardial infarction.

Methods: This is a retrospective observational study including all the patients visiting the ER with a diagnosis of myocardial infarction. One complete blood count was done on admission. The neutrophils / lymphocytes ratio (NLR) was calculated. The primary endpoint was the all-cause mortality.

Results: 235 patients were included with a sex ratio of 1.25 and a mean age of 52+/- 14 years. The mortality rate was 7%. Deceased patients had a higher neutrophil count ($9,887 \pm 5,417 / l$ VS $8,399 \pm 3,639 / l$, $p = 0.061$), a lower lymphocytes count ($1,566 \pm 786 / l$ vs. $1,899 \pm 770 / l$, $p = 0.039$) and a higher NLR (8.58 ± 7.41 vs. 5.51 ± 4.20 , $p = 0.001$).

Conclusion: A high NLR ratio is associated with a higher rate of short-term mortality.

#23180 : Neck pain and swelling in a young patient - atypical Emergency Department presentation**Authors:**

Nicoleta Cretu (1)

1. Leicester Royal Infirmary Hospital , Leicester, UK, Leicester University Hospitals Trust, Leicester, UK, Leicester, United Kingdom

Keywords: Parapharyngeal abscess

Abstract :

An 18 years old lady presented in our ED with 7 weeks history of swelling and pain on the left side of the neck with associated progressive difficulties in swallowing solids and liquids and difficulty in breathing. She was reviewed by the ENT team twice 3 days before the ED presentation . An endoscopy was performed and was reported normal and an outpatient appointment for a neck ultrasound was booked after the patient was discharged home.

Vital signs in the ED showed EWS=0. The examination revealed normal Pharyngoscopy, able to swallow saliva but painful and overall extremely painful mass palpable on the left thyroidian lobe .

After blood collection and opioid analgesia was administered to the patient, ENT referral was made in order to review the patient. It was taken the decision for the patient to be admitted under the medical team for analgesia and further investigations. A neck CT was performed in the following day after admission which showed organised , septated collection in the left visceral space with involvement of the left thyroid lobe; enhancing phlegmon in the left retropharyngeal space extending from C3 to C7 was noticed with associated adenopathy. Blood tests showed CRP=272.

The patient was transferred to the ENT team which performed incision and drainage of parapharyngeal abscess and iv antibiotherapy . The patient was discharged home with oral antibiotics after the neck drains were removed.

Because the patient presented in our ED in the Covid-19 pandemic with respiratory symptoms, Covid-19 test was performed and was reported negative.

The particularity of this case was the difficulty in diagnosing this condition. The patient was seen by the GP and ENT consultants over 7 weeks period with no definitive diagnosis until she presented to our ED. Also, even if she was initially referred to the ENT team, the patient was admitted under the medical team for neck USS and further CT neck and only after diagnosis was made she was admitted and treated appropriately by the ENT team.

The learning points from this case are that the Parapharyngeal abscess is a rare condition that we should consider as differential diagnosis when we have a patient with neck swelling. The above patient denied any cold symptoms or fever, the presentation in our ED being mainly for pain management and swallowing and breathing difficulty.

#23181 : I can't feel my legs

Authors:

Iris Mar Hernandez (1), Marta Noguero Pueyo (2), Enrique Barrueco Otero (1), Juan Jose Eito Cuello (3), Cristina Gonzalez Gonzalez Gimeno (1), Beatriz Toribio Velamazán (3), Zulema Garcia Anadon (2), Juan Alberto Magallon Puy (2), Yasmina Sanchez Prieto (2), José Luis del Rio Aisa (2)

1. Emergency department, Salud Aragon, Barbastro, Spain
2. Emergency department, Salud Aragon, barbastro, Spain
3. Emergency Department, Salud Aragon, Barbastro, Spain

Keywords: myelopathy, paresis, ischemic myelitis, medular shock

Abstract :

An 83 year old male was admitted in the outpatient department due to a paresis in both legs, worse in distal left leg, and loss of strength which disables walking since the day before, when he had fallen backwards. The patient had an acute retention of urine since four days before the admission, which was treated with a catheter. The patient had history of atrial fibrillation, hypertension and dyslipidemia. On physical examination, the patient was stable, with no pathological findings in the cardiopulmonary or abdominal examination. In the neurological examination, the strength and sensitivity on the upper limbs were preserved, although in the lower limbs there was paresis, with the superficial sensitivity preserved and doubtful perception of the profound and thermoalgesic sensitivity and Babinski indifferent. The blood test showed leukocytosis with discrete neutrophilia, with no other findings. The day after, the patient was reevaluated, showing a plegia and areflexia on both lower limbs, a sensitive level on D7-D8, Babinski sign bilateral and sphincteric atony and perineal anesthesia.

And MRI was performed with the following findings: Objective thickening of the spinal cord with increased internal signal from D5 to D10, compatible with myelopathy. While the patient was in the hospital he suffered hypotension and bradycardia due to a medular shock, which needed intensive treatment with dopamine and corticoids. The patient was discharged 20 days after, stable with a lower limb plegia and D7 sensitivity level.

The patient showed a lower limb paresis after a trauma, however and due to a detailed clinical examination more neurological deficits were found. A paresis could be due to an illness on the superior motor neuron, on the inferior , on the neuromuscular join or on the muscle. It is really important to perform a detailed examination to evaluate the simetry symmetry, the tone, the loss of strength, the sensitivity, the reflexes and the fasciculations.

In this patient the cause was an ischemic myelitis, a rare entity. The etiology is not clear around 74% of the cases. In those in which it is known, it can be due to a rupture and surgical repair of aortic aneurysms and aortic dissections, rupture of an aortic aneurysm and thrombosis, global ischemia, embolism of the anterior spinal artery, repair and thrombosis of spinal arteriovenous malformations, hematomyelia, epidural hematoma, cervical osteophytosis, celiac plexus blockage systemic lupus erythematosus, coagulopathies, decompressive syndrome (in dives), pharmacological, fibrocartilagin embolism. It is also important to mention that our patient showed a medular shock which occurs with a sudden loss of sympathetic tone, which leads to autonomic instability; bradycardia, hypotension and temperature dysregulation. This syndrome is associated with cervical or upper thoracic injuries and is more common after trauma. Even though it is an infrequent pathology, it is vital to take it into account in the differential diagnosis, since its correct identification and, above all, the filiation of its etiology, can have consequences on the patient's prognosis.

#23182 : Epidemiology of Severe Oxycodone Exposures Reported to the U.S. Poison Centers, 2008 – 2018.

Authors:

Saumitra Rege (1), Patki Tejal (2), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

2. , The University of Virginia , Charlottesville, USA

Keywords: Oxycodone, Pain, NPDS, Overdose

Abstract :

Background: Drug overdoses are a leading cause of unintentional injury-associated death in the United States (U.S.) with 68,577 fatalities in 2018. Between 2016 and 2017, oxycodone comprised of approximately 18.8% of all prescribed opioids in the United States. There were 182,748 visits to emergency departments (ED) related to oxycodone products in 2010. This study aims to examine the national trends in oxycodone exposures reported to the U.S. poison centers (PCs).

Methods: The National Poison Data System (NPDS) was queried for human oxycodone exposures from 2008 to 2018. Severe outcomes (SO) were cases that resulted in major medical outcomes or death. We descriptively assessed the relevant demographic and clinical characteristics. Trends in oxycodone frequencies and rates (per 100,000 human exposures) were analyzed using Poisson regression methods. Percent changes from the first year of the study (2008) were reported with the corresponding 95% confidence intervals (95% CI). We developed a predictive logistic regression model to identify important predictors of severe outcomes with oxycodone exposures.

Results: There were 183,058 oxycodone exposures reported to the PCs from 2008 to 2018, with the calls decreasing from 16,644 to 12,982 during the study period. Among the overall oxycodone calls, the proportion of calls from acute care hospitals and EDs increased from 40% to 58.8% from 2008 to 2018. Multiple substance exposures accounted for 54.5% of the overall oxycodone calls. Cases between ages 30 – 49 years were more common among the SO group (41.3%) as compared to the non-SO group (39.3%). Suspected suicides (55.8% vs 34.4%) and intentional abuse (19.1% vs 11.1%) were more frequent in the SO group. Additional co-occurring opioids were reported in 14% of the SO cases and 7% of non-SO cases. Benzodiazepines were the most frequently reported non-opioid co-occurring substance in both groups. The frequency of oxycodone exposures decreased by 22.5% (95% CI: -24.2%, -20.8%; $p < 0.001$), and the rate of oxycodone exposures decreased by 14.1% (95% CI: -22.6%, -5.3%; $p = 0.009$). In multivariable-adjusted analyses, the risk of SO with oxycodone exposures was significantly associated with older age with cases between 50-59 years (Adjusted Odds Ratios [AOR]: 2.15, 95% CI: 2.00 – 2.31) demonstrating significantly increased odds of such outcomes. Males were 10% more likely to have a SO as a result of an opioid exposure (AOR: 1.10, 95% CI: 1.06 – 1.15). Suspected suicide (AOR: 2.22, 95% CI: 2.10 – 2.36) and abuse (AOR: 3.21, 95% CI: 2.98 – 3.35) were strong predictors of SO (Reference: Unintentional Reasons). Exposures to more than three substances (AOR: 3.16, 95% CI: 2.95 – 3.39) and involvement of parenteral route of administration (AOR: 2.53, 95% CI: 2.09 – 3.06) significantly increased the risk of a serious outcome in oxycodone exposures.

Conclusions: PC data demonstrated a decreasing trend of oxycodone exposures, which may in part be attributed to the reformulation of this medication with abuse - deterrent properties in 2010. However, the increase in the calls from the acute-care hospitals and EDs indicates a higher risk of such exposures which may be mediated by several clinical and demographic factors.

Trial Registration / Funding Information (only) :

N/A

#23183 : Does sample handling and heparin type impact heparin solubility in arterial blood gas syringes?**Authors:**

Daniel Karcz (1), Julie Berube (2), Svetlana Morosyuk (1), Aparna Ahuja (1)

1. Specimen Management, Becton Dickinson, Franklin Lakes, USA
2. Statistics & Clinical Data, Becton Dickinson, Franklin Lakes, USA

Keywords: heparin, solubility, heparin formulation, arterial blood gas syringe, spray-dried, pad-dried, syringe handling

Abstract :**Background:**

Fast heparin solubility within arterial blood gas (ABG) syringes is critical in preventing blood clotting to provide uncompromised blood sample quality during in vitro diagnostic testing. However, syringe mixing with anticoagulant is difficult, as no air bubble is present to aid mixing, and clotting occurs more frequently in syringes relative to tubes. Additionally, dry heparin that is commonly used in ABG syringes to eliminate potential dilution effects of liquid heparin takes longer to dissolve.

This study evaluated the effect on heparin solubility with different dry heparin formulations and coating methods inside two commercially available ABG syringes, as measured by heparin concentration in samples aspirated into the syringes under handling conditions which are common in clinical practice.

Methods:

Two syringes were evaluated: BD A-Line™ Blood Gas Syringe (BD), containing 80 IU of calcium balanced heparin spray-dried on the interior wall of syringe barrel, and Radiometer safePICO Aspirator Syringe (Radiometer), containing 80 IU of electrolyte-balanced heparin dried on a mobile pad. No IRB approval was required, as there were no human subjects in the study. Testing was conducted using commercial 3.2% sodium citrate plasma aspirated into the syringes, with 1.5mL of plasma collected into two groups of syringes of each syringe brand. One group was mixed immediately after collection following the manufacturer's recommended mixing procedure, and the second group was not mixed. Syringes in each group were tested for heparin concentration at 5 minutes and 15 minutes after collection. Heparin concentration in each sample was tested using unfractionated heparin (UFH) Liquid Xa assay on the STAGO STA R Analyzer. A minimum of 30 data points per handling condition and time point were collected for each syringe brand. Statistical analysis included mean heparin concentrations, standard deviation (SD) with 95% confidence intervals, linear model with fixed brand and condition.

Results:

Heparin type and handling conditions had a significant effect on the heparin amount dissolved within the syringes. With mixing, BD syringes showed on average 29.2IU of heparin, 54.9% dissolved at 5 minutes and 34.8IU, 65.3% at 15 minutes. Without mixing, the BD syringe showed 10.2IU, 19.2% dissolved at 5 minutes and 21.4IU, 40.2% dissolved at 15 minutes. With mixing, Radiometer showed 4.2IU, 7.9% dissolved at 5 minutes and 8.3IU, 15.7% dissolved at 15 minutes; without mixing, it showed 1.3IU, 2.4% dissolved at 5 minutes and 8.6IU, 16.2% dissolved at 15 minutes. Results were also consistent with a study in the literature. That study also showed greater blood clot build-up on blood gas analyzer waste outlets using pad-dried syringes.

Conclusion:

Despite an equivalent amount of heparin per syringe, significantly better heparin solubility was observed in spray-dried syringes. This may be advantageous in preventing clotting within the sample, particularly when samples are not mixed or if prone to faster clotting.

Trial Registration / Funding Information (only) :

No funding received. No trial registration, ethical approval, or informed consent was obtained, as the study did not involve human subjects.

Authors:

Mihaela Corlade (1), R Agapi (1), Gabriela Grigoras (2), Ovidiu Tudor Popa (2), PAUL - LUCIAN NEDELEA (3), Anca Haisan (4), Cristina Popescu (1), Diana Cimpoesu (2)

1. Emergency Department, Hôpital Clinique Universitaire « St. Spiridon » Iasi, UMF « Gr.T.Popa » Iasi , Iasi, Romania
2. Emergency Department, University of Medicine and Pharmacy Gr.T. Popa Iasi, Iasi, Romania
3. Département d'urgence, UPU - SMURD, Hôpital Clinique Universitaire « St. Spiridon » Iasi, UMF « Gr.T.Popa » Iasi, Iasi, Romania
4. Emergency Dept, University of Medicine and Pharmacy, Iasi, Romania

Keywords: CPR, Injuries, Non-survivors, Cardiac arrest

Abstract :

Purpose of the study: It is well known that cardiopulmonary resuscitation has the role of increasing survival after cardiac arrest, but is associated with the risk of acquired injuries to the patient. We want to answer, how often CPR-associated injuries are present in our patients and to explore associated factors.

Materials and methods: In a retrospective study, we performed a manual review of all in-hospital discharge records and autopsy reports for evidence of injuries post resuscitation.

The study included 380 adult patients who died in ED of “St. Spiridon” Hospital during 1st Jan 2018 –31 Dec 2019, patients who were admitted in cardiac arrest or installed cardiac arrest in ED and who was unresponsive to resuscitation maneuvers.

The causes of cardiac arrest identified by the emergency physician and recorded in the observation sheet were statistically analyzed compared to the cause identified at autopsy study.

Results: 380 patients were included in the study, but a significant percentage did not require necropsy, because of their significant pathological history. The mean age at death was 65,44 years and 39.21% were women.

The most common post-resuscitation injuries were sternal and rib fractures – usually multiple. Abdominal visceral injuries or injuries related to airway management were rare.

36.57% of the patients were without post-resuscitation injuries and for 6.84% of patients the injuries could not be identified due to the post-traumatic lesions that have led to death. The occurrence of injuries overall was associated with the duration of chest compression.

For patients requiring necropsy, in 48,68% cases, the cause identified by the emergency physician was identical to that identified following autopsy study, but in some situations the initial diagnosis was completed with new elements.

Conclusion: Outcomes of our study suggest that older age, male gender and extended duration of chest compression were associated with CPR-related injuries. CPR-associated injuries are common, usually multiple, and they might not be potentially lethal (if return of spontaneous

circulation is achieved). Older age, male gender and extended duration of chest compression were independently associated with CPR-related injuries.

#23185 : The Coronavirus unmask the Italian's need for emergency interventions: empty ED waiting rooms**Authors:**

Massimo ZANNONI (1), Alberto RIGATELLI (2), Giorgio RICCI (2), Silvia GERMENIA (2), Lucia ANTOLINI (3), Roberto CASTELLO (1), Chiara BOVO (4)

1. Emergency and Accident Department, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, VERONA, Italy
2. Emergency and Accident Department, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, Verona, Italy
3. Hospital and Health Direction, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, Verona, Italy
4. Hospital Health Direction, Azienda Ospedaliera Universitaria Integrata, Verona (VR), Italy, VERONA, Italy

Keywords: COVID-19, Emergency Department, coronavirus

Abstract :

In Italy, as well as in other countries, Emergency departments (ED) waiting rooms are full of cases that, perhaps, could be managed by other medical facilities. For years, EDs have been fighting against the overcrowding trying to best distribute white, green, yellow and red codes. During the first days of COVID-19 outbreak in Italy, Simeu, the Italian emergency and emergency medical society, pointed out a decrease of people attending to ED. Aim of the study: evaluate the ED attendance during flu period and 2020 Italian COVID-19 outbreak. Methods: ED attendance at the Azienda Ospedaliera Universitaria Integrata - Borgo Trento Hospital in Verona (I) during last 5 flu periods (2014-15 to 2018-19) was compared attendance just before (Dec 2019-20/2/2020) and during the Italian COVID-19 outbreak (21/2/2020-28/3/2020). In the last case data are divided accordingly with Government regulations for containment of infection. COVID-19 correlated admissions were excluded from the study. Results: during the flu periods we observed a mean of 205 (#: min: 194; max: 217; IQ: 206-209) daily ED admissions. Aged (over 65 years old) accounted of 36.8% (min: 34.8%; max: 39%; IQ: 36.4-38.7%) and the most part were patients were self-presenting patients (85.3%) (min: 82.6%; max: 86.4%; IQ: 85.5-86.3). Figures were similar during the flu period before the outbreak: 192 daily admissions mostly self-presenting (81.2%) with 39.3% of aged patients. During the COVID-19 outbreak we observed a 50.2% reduction of the ED admissions numbers (102) with no variations in aged (38.8%) and self-presenting (80.4%) percentages. Containment rules influenced only ED admissions figures: 161 in the initial phase (-21%), 96 at closure of schools or social activities (-54%) and 82 with government ordinance to stay at home (-60). Reduction was more impressive during the 2 phases of country lockdown: 62 ED admission daily (-71%). Discussion: At Coronavirus outbreak people, frightened by a possible infection, but also following the indications given by the health authorities, if they can do without it, they do not go to the emergency department. Our data are in line with those observed in the EDs all over the Country not only in regions involved by the COVID-19 outbreak. This, of course, is useful for EDs where personnel manage to organize themselves in the event of an epidemic spike in their territory. However, this reduction also unmask an improper use of EDs. People could actually need an emergency intervention, perhaps mild, but still justifiable. In a country with long waiting time for some tests, people who have an urgent need refer to the EDs to get medical services. These needs, in recent days, have been compressed by the coronavirus emergency. But there may be a spring effect and when the contagion urgency will end, greater flows could occur: people who have only postponed their ED access to better days.

#23186 : Covid-19 - an atypical gastrointestinal presentation

Authors:

Nicoleta Cretu (1)

1. Leicester Royal Infirmary Hospital , Leicester, UK, Leicester University Hospitals Trust, Leicester, UK, Leicester, United Kingdom

Keywords: Covid-19

Abstract :

A 77 years old lady presented with a syncopal episode at home witnessed by her family. The interview revealed that the patient had 3 days history of mild diarrhoea and that her husband had died 1 week before due to Covid-19. As past medical history the patient was treated for HTN, diet controlled diabetes and depression/anxiety, scoring a Rockwood clinical frailty score of 3.

At ED presentation, the patient was appropriately isolated in a closed cubicle in Majors with full monitoring and blood test collection.

Vital signs showed EWS=0(RR=20, SpO2=96%RA, HR=78, BP=134/77mmHg, T=35.6). Blood tests were reported normal(FBC- no lymphopenia, U&E, LFT's). CXR reported right sided pneumonia.

The patient was admitted under the medical team for further treatment with antibiotic and fluids. After 24 hours Covid-19 test came back positive.

In the context of Covid-19 pandemic known also as SARS-2, a presentation with gastrointestinal symptoms- diarrhoea in this context is a rare associated condition, not yet very well described in the literature.

The learning points from this case was the need for a thorough history to be taken from the patient - the recent contact with a person positive for Covid-19 directing the suspicion of diagnosis and appropriate investigations(CXR was performed appropriately, even if the patient didn't apparently have respiratory symptoms).

Unfortunately the presentation for the Covid-19 is not only respiratory, but also neurological, cardiac(myocarditis) or gastrointestinal. In order to diagnose this very contagious viral condition a high index of suspicion associated with the patient's symptomatology can increase the rate of diagnosing this patients.

Having as model other countries that were facing this terrible condition(China or Italy) with very high mortality rates, we have to increase the prevention measures as much as we can by isolation of the population with contact or coming from endemic areas and also the patients at risk- the elderly or the patients with multiple comorbidities ,in order to decrease the rate of contamination . We will have to implement this prevention measures until a viable treatment and vaccinations will be available.

Isolation as a prevention measure is applied worldwide in the idea of decreasing the possibility of spreading this virus, until this pathology will have an appropriate treatment.

#23187 : The clinical importance of laboratory tests for therapeutic decision making in uncomplicated urinary tract infections in women (TUTIC study)**Authors:**

Stylianos Kastrinakis (1), Despoina Spentzouri (2), Christina Lorentzou (3), Apostolis Foutris (4), Kalina Zervaki (1), Dafne Christidou (1), Dimitrios Tsiftsis (4), Panagiotis Agouridakis (5), George Notas (5)

1. Emergency Department, Chania Hospital, Chania, Greece
2. Emergency Department, University Hospital of Heraklion, Heraklion, Greece
3. Researcher, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece
4. Emergency Department, General Hospital of Nikea, Pireaus, Greece
5. Associate Professor, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece

Keywords: urinary tract infection, urinalysis, urine culture

Abstract :

Introduction. Urinary tract infections are very common infections in the community. Uncomplicated cystitis often leads women to the Emergency Department (ED) where the diagnosis is based on the clinical characteristic of the disease with or without a set of laboratory examinations. However, the clinical relevance and the extent of the necessary laboratory tests in uncomplicated cystitis patients presenting to the ED are not based on evidence-based studies. Moreover, the utility of urine culture on treatment options and on patient outcomes has not been established. The purpose of the present study was to identify if laboratory tests in women presenting to the ED with uncomplicated cystitis affect the therapeutic approach of physicians who order them and the clinical course of the disease. **Methods.** Non-invasive retrospective study in 17-75 year-old women who were admitted to the three hospitals (University hospital of Heraklion, General hospital of Nikea and Chania Hospital) with a clinical diagnosis of cystitis. No intervention on the therapeutic approach of the treating physicians was included in the study. Patients were asked to provide written consent to record their examinations and to respond to a questionnaire 20 days after the initial diagnosis. **Results.** A total of 127 cases of cystitis were studied, with a mean age of 40.4 years (17-75) and a mean duration of symptoms before the examination of 2.7 days (0-14). Simple urine stick examination or laboratory urinalysis were performed in 79% and 76% of cases (98% total) and were compatible with cystitis in 89% and 83%, respectively. In 69% of patients, urine culture was ordered and it was positive in 71% of cases. The most common microorganisms found were *E.coli* (64%), *Staph. Saprophyticus* (17%) and *Proteus spp* (12%). Resistance to β -lactam was detected in 16% of positive cultures, whereas only in 1 case with *proteus spp.* was found to be resistant to nitrofurantoin and a case of *Staph. Saprophyticus* was resistant to phosphomycin. Additional examinations requested were complete blood count (25%), biochemical panel (24%, 13 tests per patient), coagulation tests (13%), pregnancy test (12%), ESR (1%), ultrasound (5%), abdominal radiography (4%) and electrocardiogram (5%). The treatment prescribed was a β -lactam (57%), phosphomycin (16%), a quinolone (16%) and nitrofurantoin (11%). General practitioners prescribed antibiotics for 2.5 more days compared to other physicians. In 11% of patients, urine culture was recommended after treatment was completed. Treatment failure was reported in 6.3% of patients and was observed with almost all antibiotics. In the cases that were found to be resistant to β -lactam antibiotics that were prescribed this category before culture was known none reported treatment failure. Examinations beyond urine dipstick or urinalysis led to a clinically significant change of medical decisions only in one case of a phosphomycin resistant *staph. saprophyticus*. **Conclusion.** There is a great deal of heterogeneity in the tests requested for patients with cystitis in the ED. No examination other than a urine-dipstick or a urinalysis results in clinically significant changes in the treatment of women with uncomplicated cystitis.

Trial Registration / Funding Information (only) :

The trial was not registered. Ethical approval was obtained from the local bioethics committees of all three hospitals. There was no funding for this study.

#23188 : Paget-Schroetter syndrome – a diagnosis and treatment challenge in the Emergency Department**Authors:**

Anca Telehuz (1), Mihaiela Lungu (2), Adriana Matei (3), Valerian-Ionut Stoian (4), Alexandru Nechifor (5)

1. Emergency Department, Slobozia Emergency County Hospital, Slobozia, Romania
2. Neurology, Galati County Hospital, Galati, Romania
3. doctor, Emergency Clinical County Hospital "Sf Apostol Andrei " Galati, Galati, Romania
4. doctor, Galati County Hospital, Galati, Romania
5. doctor, "Dunarea de Jos" University of Galati, Galati, Romania

Keywords: upper limb venous thrombosis, Paget-Schroetter syndrome, phisycal effort, creatine, CT .

Abstract :

Introduction: The Paget–Schroetter syndrome, or the subclavicular and axillary vein “effort” thrombosis, is an unusual and deep venous thrombosis, usually caused by excessive arm activity. Optimal management of this syndrome is still controversial because results offered by different treatment strategies are based on case studies and small patient groups evaluations.

Case presentation: We are presenting a 27 years old patient’s case, with no personal pathological history, chronic alcohol user, who came into the Emergency Department due to his general state alteration and a decrease of his muscle tonus in his left arm. It is worth remembering that intense physical effort was performed during the previous two days (lifting roughly 50 kg weights at work). The general clinical examination reveals a left shoulder swelling, requiring a contrast substance CT to be performed in the Emergency Department. It reveals a left subclavicular and axillary vein thrombosis. Also, the paraclinical investigations show increased creatine and metabolic acidosis values. An anticoagulant low molecular weight heparin treatment is issued at first, followed by orally administered anticoagulant for 6 months, leading to a favourable symptoms evolution.

#23189 : The chest X ray that was missing was the clue**Authors:**

Marta Noguero Pueyo (1), Iris Mar Hernandez (2), Juan Jose Eito Cuello (3), María del Rocio Rodriguez Gonzalez (1), Carlota Sarabia Martinez (1), Guillermo Castaño Doste (1), Danae Comps Almunia (1), Roman Royo Hernandez (1), Patricia Alba Esteban (1), Monica Arévalo Duran (4)

1. Emergency department, Salud Aragon, barbastro, Spain
2. Emergency department, Salud Aragon, Barbastro, Spain
3. Emergency Department, Salud Aragon, Barbastro, Spain
4. Emergency Department, Salud Aragon, barbastro, Spain

Keywords: pneumothorax, epigastric pain,

Abstract :

A 32 year old patient with clinical history of smoking and ex-consumer of injected drugs was admitted in the outpatient department due to epigastric pain, nausea, vomiting and dyspepsia in the afternoon, after he had eaten heavy lunch. In the examination, the patient seemed nervous, normohydrated, well colored, without fever and with a small tachypnea. On physical examination, the patient was stable, with no pathological findings in the cardiopulmonary or abdominal examination. A blood test was performed, showing alkalosis (pH 7,6) and CPR 61. An EKG, abdomen radiography and abdominal echography were also performed without any findings. The patient was treated with analgesia and discharged. 6h later, the patient came with the same symptomatology. The physical examination and the blood test were similar to the ones before, but due to the persistence of the pain an abdominal CT scan was performed.

In the lower cuts of the TC a massive pneumothorax was shown. Afterwards, a chest radiography was done, showing a massive right pneumothorax. The patient was treated with a thorax tube, with good results.

Pneumothorax is defined as the presence of air or gas in the pleural space. It is called spontaneous when it occurs without any trigger. We found two peaks related to age, one between 20 and 30 years, generally in the form of primary spontaneous pneumothorax, and the other at 60 years, as secondary spontaneous pneumothorax, in relation to COPD. In young patients, and according to the magnitude of the pneumothorax, it is well tolerated. Clinically, it presents as dyspnea, tachypnea, and decreased vesicular murmur. If there is mediastinal displacement, hemodynamic compromise can be present. The diagnostic technique of choice is chest radiography.

Abdominal pain is a common consultation in the emergency department as well as in primary care. It can be the guiding symptom of an infinity of underlying pathologies, including respiratory diseases such as pneumonia, pleural effusion or pneumothorax. In all the bibliography consulted, it is recommended to perform a chest plate for any abdominal pain, for the evaluation of pneumoperitoneum, a specific abdominal condition such as pleural effusion in acute pancreatitis, or subphrenic abscesses, etc., as well as to rule out pleuropulmonary processes that are manifested by abdominal clinic, as previously mentioned.

However, the reality is that each abdominal pain that comes to the service does not undergo a chest x-ray, if there is no suspicion from the examination that this will clarify and provide more information to the patient's clinic. In the presented case, the patient was evaluated by 6 doctors, residents and associates, and until the CT was performed, the pneumothorax, which was the cause of our patient's pathology, was not observed. Therefore, it is interesting to remember that abdominal pain can be presentations of respiratory and cardiac pathology, to include it in our differential diagnosis of abdominal pain.

#23190 : Look Beyond Pneumonia on CXR**Authors:**

rafael hashmi (1), asim ijaz (2), sofia afsar (3)

1. Emergency medicine, univeristy hospitals of Morecambe bay NHS trust , lancaster, United Kingdom
2. emergency medicine , University Hospitals of Morecambe Bay NHS Foundation Trust , Caton, United Kingdom
3. Emergency medicine, Univeristy hospitals of Morecambe bay NHS trust , lancaster, United Kingdom

Keywords: Pulmonary embolism, CXR, CT-PA

Abstract :

Pulmonary embolism is a frequently seen in emergency departments with different presenting complaints. Contrary to common belief the CXR is abnormal in many patients with diagnosed pulmonary emboli. The radiographic signs include elevation of diaphragm, infiltrate without infarction, pulmonary infarction, atelectasis, pleural effusion, pulmonary oedema, signs of reduced blood flow and changes in the pulmonary vasculature.

In this case report, the case of a patient who experienced respiratory symptoms with CXR showing area of pulmonary infarction is presented.

A 43 year old male with SOB, chest discomfort and cough for the last 2/52 complicated by 2/7 of haemoptysis presented to our Emergency Department. He has been treated for chest infection by the GPs. He however deteriorated and presented to us. He was tachypnic RR 28, Tachycardia HR 133, Febrile Temp—37.9, Sats of 96% on RA with B/L lower limb oedema and coarse crepts on Rt mid zone of the lungs.

CXR showed Rt sided wedge shaped opacity consisted with pulmonary infarction. D-dimers were high at 995. CT PA showed B/L pulmonary emboli with infarcts, Rt pleural effusion and pericardial effusion.

We present this case because of the rare CXR findings that showed peripheral wedge shaped opacity consistent with Pulmonary Infarction leading to the diagnosis of Pulmonary Embolism.

#23191 : Screening, Brief Intervention and Referral for Treatment (SBIRT) for alcohol use in the Emergency Department.

Authors:

Mohamed Sultan (1)

1. , University Hospital Limerick, Limerick, Ireland

Keywords: Alcohol Screening, Brief Intervention, Emergency Department

Abstract :

Introduction

Alcohol is a psychoactive substance with dependence-producing properties. Misuse of alcohol is associated with a risk of developing such health problems as alcohol dependence, liver cirrhosis, cancers and injuries.

With three million deaths per year, the World Health Organization (WHO) has identified alcohol misuse as a leading cause of mortality and disability, ranking it in the top five risk factors for disease burden.

Ireland ranks amongst the highest consumers of alcohol in the world, with the highest levels of binge drinking in Europe. Ireland spends between 3 and 10 times higher proportions of income on alcohol than our European counterparts. Young people top the European league for binge drinking.

University Hospital Limerick (UHL) Emergency Department (ED) is a tertiary referral centre in mid-west Ireland, serving a population of 475,000 with 72,000 annual visits. Clinical Decision Unit (CDU) is a short stay unit in the Emergency Department, which varies type of cases will be admitted for one or two days under the care of the Emergency Medicine consultant.

Methods

We carried a staff and patient questionnaire to test the feasibility of SBIRT for alcohol use in patients admitted to the Clinical Decision Unit, Emergency Department, University Hospital Limerick. The study period was from 17 November 2019 to 29 February 2020.

All staff was motivated to answer a questionnaire about their beliefs and experience on alcohol screening inside the emergency department prior to the start of the study.

The M-SASQ (modified -single alcohol screening question) screening tool was selected for use.

The patients were screened to Four different categories with subsequent appropriate intervention.

We adopted the brief intervention(BI) leaflet published by Health Executive Ireland (HSE). A list of all Alcohol specialised centre contact details in Mid-West is printed on double face paper.

Results

82 staff participated in the questionnaire with a wide range of different experience and clinical role.

99% agreed on the importance of detecting alcohol problems early. However, 71% cannot always remember to screen for alcohol use. 73% agreed that if they had enough time, they would ask patients about alcohol consumption.

The staff approached 415 patients, 375 (90%) agreed to participate.

71% did not need any intervention. 12% were identified as increasing risk, 16% were high risk and 1% possible dependence.

Brief Intervention and advice for referral were offered to the identified risk patients in 87% and 86% respectively.

Conclusions

There is a strong acceptance from patients to undergo screening. However, more effort is required to increase the member of the public about safe drinking guidelines. ED staff are aware of the problem and are willing to take an active role in alcohol screening and intervention. SBIRT is feasible in the ED with minimal training for the staff and utilisation of the available resources.

#23192 : Incidence of Delayed and Missed Diagnosis of Carbon Monoxide Poisoning in the Emergency Department: A Multicenter, Retrospective Analysis**Authors:**

Matteo Paganini (1), Lucia Confente (2), Francesco Barone-Adesi (3), Mara Rosada (4), Claudio Ramponi (5), Gerardo Bosco (6)

1. CRIMEDIM – Research Center in Emergency and Disaster Medicine, University of Eastern Piedmont, Novara, Italy
2. Department of Biomedical Sciences, University of Padova, Padova, Italy
3. Department of Translational Medicine, University of Eastern Piedmont, Novara, Italy
4. Emergency Department - Ospedale dell'Angelo, Mestre, ULSS 3 Serenissima, Venezia, Italy
5. Emergency Department - Ospedale Santa Chiara, APSS Trento, Trento, Italy
6. Environmental and Respiratory Physiology Laboratory, Department of Biomedical Sciences, University of Padova, Padova, Italy

Keywords: Carbon Monoxide Poisoning, Poisoning, Clinical Governance

Abstract :

Introduction: Carbon monoxide (CO) is increasingly recognized as a serious and relatively common cause of intoxication. It is also estimated to affect about 50,000 patients per year in the United States, with an annual mortality rate between 1000 and 2000. Its clinical manifestations can be subtle and non-specific, thus broadening the differential diagnosis. In current literature, only a few works examine the incidence of CO poisoning, and none addressed the incidence of problems in diagnosing this ominous intoxication in the emergency department (ED).

With this study we investigated the incidence of delayed and missed CO poisoning diagnosis in the ED, to evaluate the burden of such an event.

Methods: This retrospective study was carried out by reviewing carboxyhemoglobin values measured with point-of-care analyzers among the EDs of North-east Italy. The analysis included patients that accessed the EDs between June 2014 and July 2019 and had COHb values > 10%, without limitations of age or gender. Normally, non-smokers are diagnosed with CO intoxication if COHb values are above 4%, while smokers must have values above 10%. We chose the cutoff of 10% because smoking habits are usually not disclosed in ED charts, thus underestimating the phenomenon but increasing the specificity of our results. Patients' charts were consulted to quantify delayed and missed diagnoses. As the primary outcome, a diagnosis was defined as "missed" if no mention of CO intoxication was found in the chart or in the diagnosis of discharge or hospitalization. Lacking a benchmarking value, a diagnosis was defined as "delayed" if the blood analysis was performed after 30 minutes from the beginning of the medical examination (secondary outcome).

Results: Out of 126,000 analyses, 127 patients were included in the study (Male: 55.1%; age: median 47 years old, IQR = 32 – 55 years old). Median COHb value was of 14.3% (IQR = 10.9 – 20.3; min: 10.1%; max: 39.8%). Only 54 patients received a diagnosis of CO poisoning (42.5%) and only 52 were treated with oxygen. Of the 73 missed diagnoses, 42 were then discharged. Moreover, a diagnostic delay was found in 13 out of 127 patients (10.2%).

Discussion and Conclusions: There is a significant number of delayed CO poisoning diagnoses and an even higher number of missed diagnoses. This study did not investigate the clinical

consequences of such mistakes. However, it is well known that a delayed or, even worse, a missed diagnosis of CO intoxication can have serious impacts on the outcome of patients, in terms of possible end-organ damage such as delayed neurologic sequelae. More worrying, discharging a patient back to an unnoticed, contaminated environment could have fatal consequences. This study depicts an unprecedentedly reported problem that should prompt quality improvement processes to increase the awareness about this ominous intoxication and the level of care delivered by emergency medicine physicians and healthcare systems. In the future, a wider study including other EDs will clarify if this phenomenon is diffused or restricted to only a cluster of EDs.

Trial Registration / Funding Information (only) :

No funding received.

#23195 : Comparison of emergency echocardiographic results between cardiologists and emergency medicine specialists

Authors:

Fatemeh Rasooli (1), Maryam Bahreini (2), Farideh Bagheri (2)

1. , , Tehran, Islamic Republic of Iran

2. , Sina Hospital, Tehran, Islamic Republic of Iran

Keywords: Echocardiography; Chest pain; Disposition

Abstract :

Introduction: Cardiac events especially acute coronary syndrome, are the most important and common reasons of death in the world. Echocardiography is a noninvasive and feasible device for detection of early risks in the acute coronary syndrome (ACS) patients. Regional Wall Motion Abnormality (RWMA) is one of these risks that help to patient's disposition. Cardiologists routinely perform full standard transthoracic echocardiography (TTE) and manage the ACS patients but they don't work full time and are not always available in the emergency ward so because of delay in ACS patients' disposition, the emergency ward is getting busier next to the financial losses for both the patient and the hospital. EM specialists are performing ultrasound in cardiac problems in a limited way while they need to be trained goal directed to focusing on special items similar to EF and RWMA, which are important in low risk ACS patients' disposition as non-cardiology clinicians and be able to examine ACS patients by ultrasound within a limited amount of time. So we need to assess the agreement between cardiologists and emergency specialists in echocardiography results aiming to use them for ACS patients' disposition in the emergency ward.

Method: This was a prospective study performed on acute coronary syndrome patients in 2016-2017 in two **university** hospitals of Tehran University of Medical Sciences (TUMS). Emergency medicine residents trained 20 hours by a cardiologist on ACS patients. Then they did echocardiography independently to determine of ejection fraction, RWMA and pericardial effusion after obtain informed consent from patients. The same patients went under echocardiography by cardiac specialists at the shift within 1 hour. At the end of the study, diagnostic agreement assessed between emergency medicine residents and cardiac specialist. Measure of specialists agreement, was done based-on Kappa.

Results: One hundred patients, with a mean age of 54.1 ± 11.5 years, were included in this study. EF assessed $49.7 \pm 5\%$ and $50.7 \pm 4.8\%$ by cardiac specialists and emergency medicine specialists respectively. $p=0.182$, Absolute agreement of specialists for EF score was 0.829 (95% CI: 0.74, 0.89) based-on intraclass correlation coefficient (ICC). RWMA agreement between cardiologist and emergency medicine specialists was 89% (kappa: 0.766, $p<0.001$).

Conclusion:

Agreement in EF estimation was not significant statistically but it is acceptable clinically. There is a good agreement between emergency medicine specialists and cardiologists clinically. However emergency medicine specialists will be more efficient in ACS patients' disposition by better training in echocardiography that leads to proper and earlier patients disposition.

Trial Registration / Funding Information (only) :

Ethical code: IR.TUMS.IKHC.REC.1397.066 Funding: Tehran University of Medical Sciences

#23196 : Culture results from the Emergency Department of a tertiary hospital in Greece. Superbugs and proper choice of broad-spectrum antibiotics for initial empiric treatment.**Authors:**

Danai Papadogianni (1), Nikolaos Spernovasilis (2), Panagiotis Agouridakis (3), Achilleas Gikas (2), George Notas (3)

1. Emergency Department, University Hospital of Heraklion, Heraklion, Greece
2. Internal Medicine Department, Special infections unit, University Hospital of Heraklion, Heraklion, Greece
3. Associate Professor, University of Crete, School of Medicine, Department of Emergency Medicine, Heraklion, Greece

Keywords: Antibiotic resistance, superbugs, empiric treatment

Abstract :

Introduction. Urinary tract infections are very common infections in the community. Uncomplicated cystitis often leads women to the Emergency Department (ED) where the diagnosis is based on the clinical characteristic of the disease with or without a set of laboratory examinations. However, the clinical relevance and the extent of the necessary laboratory tests in uncomplicated cystitis patients presenting to the ED are not based on evidence-based studies. Moreover, the utility of urine culture on treatment options and on patient outcomes has not been established. The purpose of the present study was to identify if laboratory tests in women presenting to the ED with uncomplicated cystitis affect the therapeutic approach of physicians who order them and the clinical course of the disease. **Methods.** Non-invasive retrospective study in 17-75 year-old women who were admitted to the three hospitals (University hospital of Heraklion, General hospital of Nikea and Chania Hospital) with a clinical diagnosis of cystitis. No intervention on the therapeutic approach of the treating physicians was included in the study. Patients were asked to provide written consent to record their examinations and to respond to a questionnaire 20 days after the initial diagnosis. **Results.** A total of 127 cases of cystitis were studied, with a mean age of 40.4 years (17-75) and a mean duration of symptoms before the examination of 2.7 days (0-14). Simple urine stick examination or laboratory urinalysis were performed in 79% and 76% of cases (98% total) and were compatible with cystitis in 89% and 83%, respectively. In 69% of patients, urine culture was ordered and it was positive in 71% of cases. The most common microorganisms found were *E.coli* (64%), *Staph. Saprophyticus* (17%) and *Proteus spp* (12%). Resistance to β -lactam was detected in 16% of positive cultures, whereas only in 1 case with *proteus spp.* was found to be resistant to nitrofurantoin and a case of *Staph. Saprophyticus* was resistant to fosfomycin. Additional examinations requested were complete blood count (25%), biochemical panel (24%, 13 tests per patient), coagulation tests (13%), pregnancy test (12%), ESR (1%), ultrasound (5%), abdominal radiography (4%) and electrocardiogram (5%). The treatment prescribed was a β -lactam (57%), fosfomycin (16%), a quinolone (16%) and nitrofurantoin (11%). General practitioners prescribed antibiotics for 2.5 more days compared to other physicians. In 11% of patients, urine culture was recommended after treatment was completed. Treatment failure was reported in 6.3% of patients and was observed with almost all antibiotics. In the cases that were found to be resistant to β -lactam antibiotics that were prescribed this category before culture was known none reported treatment failure. Examinations beyond urine dipstick or urinalysis led to a clinically significant change of medical decisions only in one case of a fosfomycin resistant *staph. saprophyticus*. **Conclusion.** There is a great deal of heterogeneity in the tests requested for patients with cystitis in the ED. No examination other than a urine-dipstick or a urinalysis results in clinically significant changes in the treatment of women with uncomplicated cystitis.

Trial Registration / Funding Information (only) :

The trial was not registered since no clinical intervention was involved. Only anonymized administrative data were used in collaboration with the special infection unit responsible for their analysis and therefore there was no need for approval from an ethics committee. This study had no funding.

#23198 : Change of diagnosis from the emergency department to hospital discharge and patient outcome: a cohort study of dyspnoeic patients**Authors:**

Stig Holm Jensen (1), Søren Flink Sørensen (1), Marianne Lisby (1), Mia Hansen Mandau (1), Ida Katrine Thomsen (1), Hans Kirkegaard (1)

1. Research Center for Emergency Medicine, Emergency Department, Aarhus University Hospital and Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

Keywords: emergency department, emergency medicine, diagnostics, dyspnoea, shortness of breath, mortality, readmission, discharge diagnosis

Abstract :**Background:**

Dyspnoea is a common chief complaint in emergency departments (ED) associated with high mortality. Recent studies found that ED physicians can be uncertain of the correct diagnosis. In geriatric dyspnoeic patients, physicians tended to safeguard themselves by giving more than one diagnosis and treatment. Therefore, to guide initiatives that can help improve outcomes in dyspnoeic patients, it is central to determine the isolated influence of uncertain diagnostic aetiology. In this context, change of diagnosis from the ED to hospital discharge can serve as a surrogate measure. The aim of this study is to investigate the association between diagnostic change in dyspnoeic ED patients and length of inpatient unit stay (LoIS), readmission, and mortality.

Methods:

This cohort study was based on routinely-collected administrative data from all ED contacts at Aarhus University Hospital from July 1, 2016 to June 30, 2017. ED contacts triaged with dyspnoea as chief complaint and admitted to a local inpatient unit were included. Those with an ED-diagnosis from the R or Z ICD10-chapters ("Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified" and "Factors influencing health status and contact with health services") were excluded from analysis. Data sources included electronic medical records and data from the Danish Civil Registration System. All diagnoses with clinical similarity were grouped in categories. Exposure, diagnostic change, was a difference between ED-diagnosis and final discharge diagnosis, and designated concordant (same diagnosis category) or discordant (changed diagnosis category). Outcomes were LoIS, 7- and 30-day readmission and 30-day mortality. A multiple linear regression model was applied to compute geometric mean, and crude and adjusted LoIS. Logistic regression models were used for odds ratio computations of binary outcomes. The models were adjusted for age, triage colour, time of ED-arrival, chronic pulmonary disease, time to radiology, and length of ED stay.

Results:

Of 901 dyspnoeic contacts, 265 were excluded (222 with R-diagnoses and 43 with Z-diagnoses). Between 400 patients with concordant diagnosis and 236 with discordant, baseline characteristics were equally distributed.

Concordant contacts had an average LoIS of 3.66 days, while discordant contacts had one of 4.66; the crude relative difference was 1.27 (95%CI 1.10;1.47) and the adjusted 1.30 (95%CI 1.12; 1.51). The groups were similar in 7- and 30-day readmission; in the concordant group 7% were readmitted within 7 days and 14% within 30 days, in the discordant group it was 5% in 7 days and 17% in 30 days. The 30-day mortality was 10% in the concordant group and 14% in the discordant, with a crude odds-ratio of 1.47 (95%CI 0.84; 2.55). After adjustment this odds-ratio estimate was 2.11 (95%CI 1.12; 3.99).

Discussion & Conclusions:

Among dyspnoeic ED contacts we found an association between longer LoIS and change of diagnosis from ED to hospital discharge. Similarly, we found a weak but statistically significant association between 30-day mortality and change of diagnosis.

In conclusion, these results indicate that increased certainty of diagnostic aetiology in dyspnoeic patients may independently reduce length of inpatient unit stay and 30-day mortality.

Trial Registration / Funding Information (only) :

Trial Registration: No trial registration due to no patients involved. Funding: This study did not receive any specific funding.

#23199 : Bringing life in Coronavirus times

Authors:

Gabriela Raluca Grigorasi (1), Carmen Diana Cimpoesu (2), Irina Ciuranghel (3), Ovidiu Popa (2), Mihaela Corlade Andrei (1), Paul Lucian Nedelea (4), Simona Gheorghiu (5), Eliza Barbuta (1)

1. Emergency Department, University of Medicine and Pharmacy "Grigore T. Popa"-Iasi, Iasi, Romania
2. University of Medicine and Pharmacy "Grigore T. Popa"-Iasi, Emergency Department, Clinical Emergency County Hospital "St. Spiridon"-Iasi, Iasi, Romania
3. Emergency Department, Clinical Emergency County Hospital "St. Spiridon"-Iasi, Iasi, Romania
4. Emergency Department, Emergency Department, Iasi, Romania
5. Emergency Department, University of Medicine and Pharmacy "Grigore T. Popa"-Iasi, Botosani, Romania

Keywords: Coronavirus, covid19, helicopter, tricuspid valve atresia, prematur

Abstract :

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2. The emergence of a novel coronavirus and the potentially life-threatening respiratory disease that it can produce, has rapidly spread across the globe, creating a massive public health problem.

Despite the intense efforts taken to control the epidemic, many people were infected worldwide by the 30th of March and was characterized as a pandemic by the World Health Organization (WHO). Up till now, the WHO has reported 752.747 coronavirus cases and 36.226 deaths at the global level. Nowadays, Romania ranks 29th among the affected countries, with 1952 confirmed cases and 46 deaths, the first case being reported on the 25th of February.

The elderly and people with underlying diseases are susceptible to infection and prone to severe outcomes, which may be associated with acute respiratory distress syndrome and cytokine storm. Pregnant women are more susceptible to the virus due to immune and anatomic alteration. Hospital visits may also increase the risk of infection, and the lack of medical care during pregnancy may do more harm. Currently, there are few specific antiviral strategies, but several potent candidates of antivirals and repurposed drugs are under urgent investigation.

Due to the migration of the population from the high-risk areas (Italy, Spain, Belgium, France) to Romania, in the last days, the northeast region of the country, especially the Suceava county, has become the biggest Covid-19 hotspot in the country.

On the 28th of March, four premature babies (27 and 28 weeks) born with a birth weight between 680-1386 grams have been transferred to two maternity hospitals in Bucharest. This decision was a consequence of the infection of the medical staff of the Suceava County Hospital and minister order to change the intended use into a Covid-19 hospital.

Considering the epidemiological context, only one mother was suspected of coronavirus infection at the time of the babies' transfer, one died at birth due to complications of the post-cesarean section, and two were in a perfect state of health. Only three of the four premature babies were tested for coronavirus infection, but at the time of transfer, the results weren't validated yet. Due to the significant distance, approximative 500 km between the hospitals, all four children were transferred by helicopter. One of them was in an emergent condition, being diagnosed at birth with tricuspid valve atresia and a surgical intervention being required as soon as possible.

The severity of the situation was very high and for the SMURD helicopter unit was almost impossible to transfer in good conditions the newborns on the same day (time and logistic constraints). Then a decision was taken by SMURD Coordinator, which turned to be the best and most efficient one: to use both helicopters based in Iasi (EC135 and Mi8). The critical one with the EC135 and being supervised by an extra medical team created on-demand just minutes before the missions.

During the air transfer, the patients were hemodynamically stable, reaching their destination in good condition.

Attachment: Bringing life in Coronavirus times.docx

#23200 : Evolution of an atypical case of malaria in Romania

Authors:

Adina Maria Mârza (1), Alina Petrică (2), Dumitru Șutoi (2), Cosmin Trebuian (3), Cosmin Librimir (1), Ovidiu Mederle (1)

1. Emergency Department, University of Medicine and Pharmacy "Victor Babeș" from Timișoara, Timisoara, Romania
2. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania
3. Emergency Department, University of Medicine and Pharmacy "Victor Babeș" from Timișoara, Timisora, Romania

Keywords: malaria, atypical, thrombocytopenia

Abstract :

Introduction. Early suspicion of malaria is important to prevent further complications that could require methods of diagnosis and treatment difficult or sometimes impossible to access, in a country where this disease is extremely rare. A travel history to a country at risk must always lead to suspicion of malaria.

Case presentation. A 58-year-old woman came in our emergency department for an episode of fever and chills which suddenly developed a day before. A few years ago, she had been treated for a bacterial pneumonia with similar onset, without respiratory symptoms. The patient travelled to Sierra Leone, Africa, 6 months ago, and took the recommended antimalarial prophylaxis. Vital signs were stable and clinical examination was normal. Laboratory tests revealed leukopenia with granulocytosis, normal erythrocytes and haemoglobin, increased inflammatory markers. Uroculture was taken and a chest x-ray was performed, which revealed several alveolar infiltrates with tendency to confluence in the right basal pulmonary lobe. She was discharged from the emergency department with diagnosis of acute right lower lobe pneumonia and received oral antibiotic treatment at home (levofloxacin and cefixime). After 4 days the patient returned accusing a new febrile episode in the previous day, headache and fatigue. A urinary tract infection was excluded by the uroculture. Blood tests were repeated, which revealed worsening leukopenia and thrombocytopenia, normal erythrocytes, haemoglobin and bilirubin, but higher values of inflammatory markers despite antibiotic treatment. Blood cultures were taken and injectable treatment with levofloxacin and doxycycline was started. In the next two days the evolution of the patient was unfavourable. Initial haemocultures were negative.

The biggest suspicion was malaria but the only diagnostic tests to detect malaria available within the city were rapid diagnostic test (which was negative), and malaria antibodies (which came positive after 10 days). After two days, blood tests showed aggravated leukopenia and thrombocytopenia, without anaemia, with slightly increased bilirubin. Inflammatory markers were steadily increasing, despite injectable antibiotic treatment, and malaria could not be confirmed.

For the differential diagnosis, the cytomegalovirus antibodies (which were negative) were also tested. In order to exclude other causes of sepsis, but also to detect possible imaging changes caused by malaria, a full body CT-scan with contrast was performed, which excluded pneumonia, the only pathological change being hepatosplenomegaly. Given the inability to diagnose malaria and the worsening of the patient, the administration of antimalarial treatment with Artemether

80mg/Lumefantrine 480mg was started in the 3-day scheme (one tablet at 0-8h-24h-36h-48h-60h). The evolution was favourable, the patient presenting the decrease of inflammatory markers, the growth of leukocytes and platelets after only 2 days of antimalarial treatment, with complete normalization after another 2 days.

Conclusion. It is very difficult to diagnose and treat a rare disease without the necessary tests, but it is imperative to raise the suspicion according to the clinical symptoms and biological changes, even if they are atypical, so that the patient receives the necessary treatment as soon as possible.

#23201 : Diagnostic Approach in Emergency Department with Hematological and Biochemical Results in Patients with Chest Pain**Authors:**

ÜMİT FİKRET ONUR (1), YUSUF YÜRÜMEZ (2), MURAT YÜCEL (3), egemen küçük (1), volkan ülker (1), Volkan Ülker (4), nuray aslan (1)

1. Clinics of Emergency Medicine, Sakarya University Education and Research Hospital, Sakarya, Turkey, sakarya, Turkey

2. Department of Emergency Medicine, TC SB Sakarya University, Faculty of Medicine , Sakarya, Turkey

3. EMERGENCY MEDICINE DEPARTMENT, Sakarya University Education And Research Hospital, Sakarya, Turkey

4. Department of Disaster Medicine, TC Bezmialem Foundation University, Institute of Health Sciences, Istanbul, Turkey

Keywords: Acute Myocardial Infarction, High Sensitive – Troponin, Neutrophil / Lymphocyte Ratio, Platelet / Lymphocyte Ratio

Abstract :**INTRODUCTION AND PURPOSE:**

Acute coronary syndrome (ACS) can be described as a fatal disease which includes ST Elevation of Myocardial Infarction (STEMI), Non-ST Elevation of Myocardial Infarction (NSTEMI) and Unstable Angina Pectoris (USAP) that occurs a result of decreasing myocardial blood flowing depending on destabilization of atherosclerotic plaque. Even if the frequency of this disease decreased recently in developed countries, it is one of the primary and major reason of death all around the world. According to previous studies, it is showed that he begins of the atherosclerotic process and importance of inflammation plays a big role in this case. It is necessary to examine electrocardiographic findings, biochemical markers with clinical properties in a comprehensive manner, during the process of diagnosis and classification of acute coronary syndrome. In our study, we aimed to evaluate the roles of biochemical markers and also various inflammatory markers which is being investigated in a diagnostic and prognostic respect in recent years.

MATERIALS AND METHOD:

This study is conducted at Republic of Turkey, Ministry of Health Sakarya University Emergency service between dates 01.06.2016 and 30.09.2016 with 257 patient who came with a chest pain and get diagnosed by ACS. During the study, file records are examined retrospectively. First laboratory data during application (urea, creatinine, Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT), White Blood Cells (WBC), neutrophil, lymphocyte, thrombocyte, hemoglobin; hematocrit, Mean Platelets Volume (MPV), Reticulocyte Distribution Width (RDW), neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio, platelet/neutrophil ratio (PNR), troponin and Creatinine Kinase Muscle-Brain (CK-MB) parameters) are analyzed.

RESULTS:

In the experimental group there was 257 patient (121 STEMI, 69 NSTEMI, 67 USAP) and in the control group there was 70 patient who came to emergency with a flank pain but discharged due

to atypical flank pain. Sample contains 191 males and 66 females with a mean age 59,75. It is determined that all examined biochemical markers in experimental group are significantly higher, lymphocyte and PNR results are significantly lower than the control group. The increase in the WBC, neutrophil, NLR and PLR is more prominent in STEMI patients. The decrease in the PNR value and the increase in the RDW value is more specific to the NSTEMI patients. The decrease in the lymphocyte, thrombocyte and P-MPVR values are more prominent in the USAP patients. Furthermore, blood platelet count of STEMI patients is higher than USAP patients.

CONCLUSION:

Examined blood WBC, neutrophil, RDW, NLR and PLR values, taken from acute coronary syndrome patients, are significantly increases. In contrast, lymphocyte and PNR values are significantly decreases.

#23202 : Early diagnosis in elderly patients with posterior circulation stroke. A challenge for emergency physicians.

Authors:

Cosmin-Gheorghe Măciuceanu (1), Adina Maria Mârza (1), Dumitru Şutoi (2), Cosmin Trebuian (3), Cosmin Librimir (1), Ovidiu Alexandru Mederle (1)

1. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
2. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania
3. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisora, Romania

Keywords: stroke, elderly patients, cerebellum

Abstract :**Introduction:**

The clinical presentation of stroke may vary from the classical symptoms with facial asymmetry, focal neurological signs, aphasia to subtle signs such as generalized weakness, dizziness, vague sensory changes, altered mental state. This case presentation tells the story of a patient with atypical symptoms of a stroke.

Case presentation:

An 87-year-old female patient with mixed dementia presented in the emergency unit following an episode of loss of consciousness at home, complaining for two days of fatigue and drowsiness. The clinical examination revealed a good temporo-spatial orientation, without motor deficit in the comparative tests. The coordination tests showed dysmetria at the index-nose test, with normal cranial nerves examination (equal pupils, reactive, facial symmetry). Vital signs were stable (BP= 108/60 mm HG, HR = 65 bpm, SpO₂ = 95%, T = 36.8 °C). Initially, the blood and urine tests revealed intense dehydration and a urinary infection, so fluids and antibiotics initiated, a chest x-ray was performed which did not show pathological elements. The decision was to get a CT scan done, that did not reveal any pathological signs excepting cortical atrophy and polytopic lacunar infarctions. Considering the discrepancy between the focal neurological signs (dysmetria) and the lack of specificity of the cranial CT for the pathology of the posterior fossa, it was decided to perform a cranial MRI, an investigation that is not usually accessible for emergency department, which revealed the presence of a right cerebellar hemisphere infarction of 1.1 / 0.9 cm, the patient being subsequently transferred to the neurology department.

Conclusion:

In contrast to the classic presentations of a cerebellar stroke, clinical symptoms in elderly patients can be atypical, the general altered condition being the only manifestations present and the risk of omission of diagnosis is very high. Therefore, the careful neurological examination can provide the only information relevant for the suspicion of a cerebellar stroke. The collaboration between the emergency physician and the radiologist in order to perform a cranium MRI in patients suspected of stroke in the posterior fossa having a decisive role for prompt diagnosis and initiation of suitable treatment.

#23203 : Modified valsalva maneuver for supra ventricular tachycardias in the emergency departement: what side effects?

Authors:

HANA HEDHLI (1), nadia zaouak (2), nihil oueslati (2), Rym Ben kaddour (3), mariem naija (2), mohamed amine kallel (2), Rym Hamed (4)

1. emergency department, EPS Charles Nicolle, Tunis, Tunisia
2. Service des urgences, EPS Charles Nicolle, Tunis, Tunisia
3. service des urgences, Charles Nicolle hospital, Tunis, Tunisia
4. , Charles Nicolle hospital, Tunis, Tunisia

Keywords: supra ventricular tachycardia, emergency departement, valsalva maneuver

Abstract :**Background :**

Supra ventricular tachycardias (SVT) are frequently encountered in daily clinical practice in the emergency departement. The modified Valsalva maneuver is a non-invasive method to consider first. However, its safety in restoring a normal heart rhythm has not yet been demonstrated. The objective of our study was to determine the side effects associated with the modified Valsalva maneuver.

Methods:

It was a retrospective observational study conducted for 9 months . Patients over the age of 18 years consulting for supra ventricular tachycardia and who had not previously received anti-arrhythmia were included. Patients with hemodynamic instability with a systolic blood pressure < 90 mmHg, an indication of urgent cardioversion, ACFA or Flutter or a contraindication to the Valsalva maneuver (recent myocardial infarction, glaucoma, retinopathy, COPD, Asthma) were excluded.

Results:

EValsalva maneuver was performed in 54 patients (75%). Twelve patients were reduced spontaneously and six patients were excluded from the study for inability to produce the technique. Possible side effects were reported in 16% of patients (%): hypotension (8), arrhythmia (5%) and headache (3%). No transient heart attacks or syncope have been reported. Among the patients who were reduced 12% recurred before their discharge and used anti-arhythmic treatment.

Conclusion:

SVT is a simple and effective to reduce the heart rate, however several precautions for use should be taken into account to optimize its effectiveness.

#23204 : Does the emergency department have a role in penicillin allergy de-labelling in children?

Authors:

Kene Maduemem (1), Umair Khan (2)

1. Paediatrics, Leicester Royal Infirmary, Leicester, United Kingdom

2. , University of Edinburgh, Edinburgh, United Kingdom

Keywords: Penicillin allergy, labels, emergency

Abstract :

Background

Penicillin allergy (PenA) is the most common reported drug allergy in the emergency department (ED). Given that most antibiotic allergy labels acquired in childhood are carried into adulthood, the over labelling is an absolute drawback resulting in undesirable health care risks, antibiotic resistance, and increased costs. There is growing data to support key historical features to accurately stratify patients into low and risk groups which is crucial in application of direct oral challenge. The aim of this study was to evaluate the knowledge of reported PenA and impact of PenA labels amongst prescribers in the children's ED. It was hypothesized that while over 70% will correctly identify the high-risk symptoms of PenA, much less than 50% may be aware that oral drug challenge is the gold standard for PenA diagnosis.

Methods

This was a cross-sectional anonymised survey of prescribers working in the children's ED of Leicester Royal Infirmary, UK. The paper-based survey was distributed to prescribers over a 2-week period in December 2019. The survey comprised several sections: characteristics of respondents, clinical vignette, knowledge of high- and low-risk symptoms of PenA, questions on allergy focused history, and knowledge of impact of PenA labels. Primary outcome measure was knowledge of low- and high-risk symptoms of reported PenA.

Results

Sixty-two questionnaires were returned from clinical grades ranging from consultants to foundation year doctors, as well as advanced nurse practitioners. Over 90% of respondents correctly identified signs and symptoms suggestive of anaphylaxis as high-risk symptoms. Knowledge of onset of rash over an hour of penicillin ingestion as a low-risk symptom was significantly associated with penicillin antibiotic prescription (21/37 versus 16/37; p-value 0.01). While less than 50% of respondents would clarify the time interval between ingestion and symptoms, a lower proportion (38%) would verify if allergy was confirmed by testing. Eighty seven percent agreed that PenA was over diagnosed but 66% agreed that it can lead to antibiotic resistance. Only 33% agreed that confirmation of PenA was by oral challenge.

Conclusion

There is low rate of allergy focused history in addition to deficient understanding of low-risk symptoms of PenA amongst prescribers in the ED. Allergy education in conjunction with an algorithm to safely de-label children with such symptoms in the ED will contribute immensely to antimicrobial stewardship. The survey demonstrated willingness of prescribers to adopt such decision tool.

#23205 : Emergency Department intervention and follow-up for collegiate alcohol misuse**Authors:**

Heather Borek (1), Jennifer Ross (1), Kristina Simpkins (2), Saumitra Rege (1), Kawai Tanabe (2), Christopher Holstege (3)

1. Department of Emergency Medicine, University of Virginia, Charlottesville, USA
2. Student Health and Wellness, University of Virginia, Charlottesville, USA
3. Department of Emergency Medicine and Student Health and Wellness, University of Virginia, Charlottesville, USA

Keywords: alcohol misuse, intervention, college students

Abstract :

Background

Alcohol misuse is an ongoing problem on university campuses. Problems related to drinking in the student population are often associated with negative personal and academic consequences, such as sexual assault, violence and aggression, traumatic injuries, and the potential for poor academic performance. Prior to 2017, the Emergency Department (ED) at a large University-based hospital did not have any standard follow-up or intervention for students who presented with adverse effects related to alcohol use. The program *Brief Alcohol Screening and Intervention for College Students* (BASICS) is an evidence-based intervention that has been shown to reduce future adverse consequences related to drinking in this population.

Methods

This study is a retrospective cohort study evaluating the efficacy of a newly established referral protocol. BASICS is administered at the Department of Student Health & Wellness (SH&W), a healthcare entity serving solely students and separate from the University Healthcare System. Beginning in academic year 2017, the ED partnered with SH&W to establish a direct referral program to BASICS. This referral consisted of a specific conversation with the student once sober, a BASICS prescription (designed similarly to a paper prescription), a flyer explaining BASICS, and standard phrasing in the ED discharge paperwork. A phone call was also made to the local poison center to track these referrals while maintaining patient confidentiality. Students were strongly encouraged but not mandated to attend BASICS, and could also be referred to the program through other sources, such as via the Deans. The initial BASICS evaluation consisted of a self-assessment and peer comparison, with full completion of the program including the motivational interview.

Results

In academic year (August to May) 2017-2018 there were 200 referrals placed from the ED to the BASICS program. BASICS had a total (from all referral sources) of 227 student sign-ups, with 167 completing the program. Of the ED referrals, 23 students signed up with 19 completing the program, which represents 11.5% of the ED referrals completing some portion of the BASICS program. Eleven percent of all BASICS participants were referred from the ED.

In 2018-2019, there were 156 ED to BASICS referrals, with 217 total BASICS sign-ups and 131 completing the program. Of the ED referrals, there were 56 sign-ups and 44 completions, representing a 35.9% follow-up rate from ED referrals. ED referrals were responsible for 34% of all BASICS participants overall.

Discussion and Conclusions

The implementation of a standard work flow to address collegiate alcohol misuse was designed to prevent or minimize future adverse consequences related to alcohol for the student population. This program was an important first step to identifying risky behaviors and providing a means for follow-up. Over the course of the first 2 years of the program, the number of students engaged in BASICS from the ED increased, which may be due to a shift in the standard workflow and comfort of providers with the new pathway, including having challenging discussions with the students that were previously not occurring.

Trial Registration / Funding Information (only) :

n/a

#23206 : An evil dizziness

Authors:

JUAN ORTEGA PÉREZ (1), MERITXELL VIDAL BORRÀS (2), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Dizziness, Adenocarcinoma, Tobacco

Plain films

Patient images are involved and I have adequate permission to use them

Abstract :

65-year-old male patient with a history of depressive anxiety syndrome treated with paroxetine and diazepam, former smoker for a year. He came to the emergency department for presenting instability to the march for 3 days. He had instability to walk so hard so he needed to be taken home due to the impossibility of ambulation. He denied that this symptomatology has occurred to him previously. No fever or dysthermic sensation. She claimed that he had an unirradiated holocranial headache without photophobia or sonophobia.

Physical examination. Vital signs: T^a36.3°C, HR 50 bpm, BP 128/68, SpO₂:99%

Physical exam: Conscious and oriented, isocoric and normoreactive pupils. Cranial pairs without alterations. No alterations in the confrontation campimetry. Oculomotricity were normal. No diplopia or nystagmus. Lingual motility and velopalatin preserved. He did not give up on Barré or Mingazzini. Overall and symmetrical 5/5 muscle balance in all four extremities. No alterations in sensitivity. There were no differences in finger-nose or heel-knee maneuvers. Negative Romberg. March very unstable, with insecurity to the march and increase of the support base.

Normal cardiac auscultation. Preserved vesicular murmur. Abdomen: Soft and depressible, not painful, without mass palpation or visceromegaly. Ears were normal.

The patient had cervical contracture.

We put dexketoprofeno 50 mg and diazepam 5 mg by vein for the headache and the cervical contracture while we were waiting the results of complementary tests.

Complementary Tests

ECG: Normal.

Blood test: Hemogram, coagulation and liver and kidney function without alterations. PCR of 1.06 mg / dL.

The CT scan of his brain were normal.

Radiography of the chest: Condensation was observed on the right apex which it was not present in the 2017 radiography.

With this results we decided to ask for a CT scan of his chest. Tuberculosis, bacterial condensation or neoplastic process were considered as differential diagnosis.

Radiological findings in probable relation with primary pulmonary neoformative process in stage T4N2Mx in upper right lobe.

The patient improves symptoms, could walk without dizziness and without increasing the base of support.

Pathological anatomy showed us adenocarcinoma of the lung.

With this diagnosis, we referred the patient into Pneumology and Oncology for treatment and follow up. The patient received chemotherapy and radiotherapy and was progressing correctly awaiting surgical intervention.

Conclusion:

Adenocarcinoma of the lung is the most common type of lung cancer. The signs and symptoms of this type of lung cancer are similar to other forms of lung cancer, and patients most commonly complain of persistent cough and shortness of breath, not in this case. We can find different kind of symptoms or without them like in our case. The most important thing is to think about it in patients with a history of cigarette smoking.



#23208 : Validation of a point-of-care capillary lactate measuring device, Lactate Pro 2: a prospective observational study

Authors:

Anette Raa (1), Jon-Kenneth Heltne (2), Geir Arne Sunde (3)

1. University of Bergen, Haukeland University Hospital, Bergen, Norway
2. Anesthesia and Intensive Care Dept., Haukeland University Hospital, Eidsvaagneset, Norway
3. Anesthesia and Intensive Care Dept., Haukeland University Hospital, Bergen, Norway

Keywords: Lactate, prehospital, critical care patients

Abstract :

Background: The measurement of lactate in emergency medical services has potential for the earlier detection of shock and can be performed with a point-of-care handheld device. Validation of a point-of-care handheld device is required for prehospital implementation.

The primary aim was to validate the accuracy of Lactate Pro 2 in healthy volunteers and in haemodynamically compromised intensive care patients. The secondary aim was to evaluate which sample site, fingertip or earlobe, is most accurate compared to arterial lactate.

Methods: The study is a prospective observational study conducted at the ICU department at Haukeland University Hospital, Bergen, Norway, in the time period of 2016-2017. Arterial, venous and capillary blood samples from fingertips and earlobes were collected from adult intensive care patients. Healthy volunteers (medical students) performed a maximal oxygen consumption test to obtain elevated blood lactate levels. Arterial and venous blood lactate samples were analysed on a stationary hospital blood gas analyser (ABL800 Flex) as the reference device and compared to the Lactate Pro 2. We used the Bland-Altman method to calculate the limits of agreement and used mixed effect models to compare instruments and sample sites.

Results: A total of 49 intensive care patients with elevated lactate and 11 healthy volunteers were included. There was no significant difference in measured lactate between Lactate Pro 2 and the reference method using arterial blood in either the healthy volunteers or the intensive care patients. Capillary lactate measurement in the fingertip and earlobe of intensive care patients was 47% (95% CI (29% to 68%), $p < 0.001$) and 27% (95%CI (11% to 45%), $p < 0.001$) higher, respectively, than the corresponding arterial blood lactate.

Conclusion: Our results showed that the handheld Lactate Pro 2 had good agreement with the reference method using arterial blood in both intensive care patients and healthy volunteers. However, we found that the agreement was poorer using venous blood in both groups. Furthermore, the earlobe may be a better sample site than the fingertip in intensive care patients.

Trial Registration / Funding Information (only) :

Ethics approval and informed consent: All patients' next of kin and all volunteers involved signed an informed consent form. This study was approved by the Regional Ethics Committee (REK-Vest number 2016/815) and (2017/162). We received funding from the "Regionalt Akuttmedisinsk Kompetansesenter" (RAKOS Helse Vest).

#23209 : THE EVALUATION OF SEVERITY AND MORTALITY OF ACUTE PANCREATITIS PATIENTS BY HAPS, EPIC SCORE, INFLAMMATORY MARKERS AND BIOCHEMICAL MARKERS IN EMERGENCY SERVICE**Authors:**

özgür bayındır (1), YUSUF YÜRÜMEZ (2), MURAT YÜCEL (3), volkan ülker (4), Volkan Ülker (5), bilge ercan (4)

1. Clinics of Emergency Medicine, TC Dr. Ersin Arslan Education and Research Hospital, Gaziantep, Turkey, gaziantep, Turkey
2. Department of Emergency Medicine, TC SB Sakarya University, Faculty of Medicine , Sakarya, Turkey
3. EMERGENCY MEDICINE DEPARTMENT, Sakarya University Education And Research Hospital, Sakarya, Turkey
4. Clinics of Emergency Medicine, Sakarya University Education and Research Hospital, Sakarya, Turkey, sakarya, Turkey
5. Department of Disaster Medicine, TC Bezmialem Foundation University, Institute of Health Sciences, Istanbul, Turkey

Keywords: Acute pancreatitis, Extra Pancreatic Inflammation on Computerized Tomography Score, Harmless Acute pancreatitis Score, Mortality, Neutrophil Lymphocyte Ratio, Prognosis, Prognostic Nutritional Index

Abstract :**Introduction**

Acute pancreatitis (AP) is a sudden inflammation of the pancreas emphasized by activation of pancreatic enzymes to cause self-degradation of the pancreas. In most cases, AP is mild, self-limiting, however, 20%–30% of patients develop a severe disease that may accomplish systemic inflammation and cause pancreatic necrosis, multi-organ failure, and potentially death. Early, quick, and accurate determination of the severity of AP would permit early initiation of intensive care therapy for patients with severe AP to prevent adverse outcomes and mortality. The aim of this study is to determine the severity and mortality of AP patients by harmless acute pancreatitis score (HAPS), Extra Pancreatic Inflammation on CT (EPIC) score, inflammatory and biochemical markers.

Methods Two hundred thirty-two patients diagnosed with AP in emergency service, using Atlanta criteria were included in the study. The HAPS score, the EPIC score (based on the presence of pleural effusion, ascites, and retroperitoneal fluid collections), prognostic nutritional index (PNI) were calculated. Total blood count, neutrophil lymphocyte ratio (NLR), comprehensive biochemical panel were included in the analyses. Using NLR and PNI, NLR+PNI score was calculated. Factors affecting the mortality were investigated. Kaplan–Meier survival curves were created followed by the log–rank test to compare differences in the survival time.

Results The mean age of the patients was 64.0 ± 17.0 years. 62.9% of the patients were female, 37.1% were male. The cause of acute pancreatitis was gallstones in 80.6%, tumor in 4.3%, alcohol in 1.7%, and hypertriglyceridemia in 0.4%. The mean values for NLR, PNI, and EPIC score were 10.1 ± 9.3 , $43.7 \pm 7.0\%$, and 1.1 ± 1.5 , respectively. The mortality rate in the first week was 1.3%, and it was 5.6% in the first three months. An EPIC score of 1.5 or more had a 69% sensitivity and 77% specificity for predicting mortality (AUC=0.781, 95% CI 0.633–0.929). PNI 38 cut-off value was significant (AUC=0.739, 95% CI 0.590–0.888) when ninety-day mortality was predicted. 50.4% of patients were HAPS (+), 40.6% were HAPS (–). WBC ($p=0.006$), Neutrophil count ($p=0.017$), Hemoglobin ($p<0.001$), Hematocrit ($p<0.001$), Glucose ($p=0.022$) and Triglyceride ($p=0.045$) levels, intensive care requirement ($p<0.001$) and length of hospital stay ($p=0.010$) were lower in HAPS (+) patients compared with HAPS (–)

patients. The level of WBC ($p < 0.001$), Neutrophil ($p < 0.001$), RDW ($p = 0.014$), NLR ($p = 0.001$), Glucose ($p = 0.003$), Urea ($p < 0.001$), K ($p = 0.011$), and LDH ($p = 0.019$) were higher in fatal cases compared with survivors; however, the glomerular filtration rate ($p < 0.001$), total protein ($p = 0.006$) and albumin levels ($p < 0.001$) were lower. Moreover, length of stay in the emergency department was longer in fatal cases ($p = 0.015$). In Kaplan Meier survival analyses, male gender ($p = 0.013$), lower PNI ($p = 0.038$) and EPIC score ($p < 0.001$), higher HAPS ($p < 0.001$) and NLR+PNI score ($p = 0.031$), and intensive care requirement ($p < 0.001$) were significantly associated with reduced survival time.

Conclusion PNI, EPIC, HAPS and NLR+PNI scores were useful in determining mortality and severity of AP patients in emergency service. These scales will allow physicians to identify efficiently and quickly the patients who do not require intensive care, and potentially those who will not require inpatient treatment at all. Thus, these scales may save substantial hospital costs.

#23211 : Closing and reopening an Emergency Department contaminated with new CoVid-19

Authors:

Ovidiu Tudor Popa (1), Tudor Merticaru (2), Petruta Morosan (3), Constantin Andrei (2), Cristina Popescu (3), Mihaela Corlade (3), Anca Haisan (4), Gabriela Grigoras (1), Paul Nedelea (1), Diana Cimpoesu (1)

1. Emergency Department, University of Medicine and Pharmacy Gr.T. Popa Iasi, Iasi, Romania
2. Emergency Dept, Emergency Hospital Sf. Spiridon, Iasi, Romania
3. Emergency Department, Hôpital Clinique Universitaire « St. Spiridon » Iasi, UMF « Gr.T.Popa » Iasi, Iasi, Romania
4. Emergency Dept, University of Medicine and Pharmacy, Iasi, Romania

Keywords: Emergency department, Closed, CoVid-19

Abstract :

Background: Closing a Emergency Department (ED) because contamination, in this case was involved the new Corona virus, is something new in Romania and we want to describe the steps which due to this circumstances and what we did to reopen as soon as possible this ED.

Brief history: In City of Suceava is operating a County Emergency Hospital with an ED, which has 103.000 patients presented in 2019 and 24.000 presentation in the first three months of 2020, until 24 of March. Statistical data shows that in Suceava county population reach 753,707 inhabitants, of which 148,316 (19.67%) are aged over 60. Regarding the medical staff, in the health unit works 1300 people, medical and auxiliary staff, including 233 physicians.

Results and discussions: One of the first patients diagnosed with coronavirus in Romania – patient no. 6 – was here, in ED and Hospital. Patient no.6, a 71 –year–old man, had come from Lombardy after treatment with cytostatics, and traveled by bus from Nădlac to Suceava. On March 2, he was, presented in ED and admitted in Hospital, without declaring his trip, and only on March 4 he was diagnosed with the new coronavirus and transferred later to the Infectious Diseases Clinical Hospital in Iasi. In this three days, patient was admitted in intensive care unit, underwent several tests and came in contact with doctors, nurses and other patients.

Of the 233 doctors in the health unit, 34 are confirmed positively at COVID 19. They are admitted to the Infectious Diseases Hospital Suceava, the rest are in isolation for 14 days at home. Also, 49 nurses confirmed with COVID 19 from the county hospital are also admitted to the Hospital of Infectious Diseases Suceava.

In Romania, reported at 30 March, from a total of 2109 people infected with coronavirus, 593 are from Suceava (28%), and from a total number of 65 deaths 22 (33%) are registered here.

The Ministry of Health team decided that, after disinfection, the Suceava County Hospital would become a medical unit in which will be treated the cases infected with the new coronavirus.

After 48 hours of disinfection, the ED was open, start operating again with medical personnel transferred from Iași, private clinics in Suceava, as well as staff from the County Inspectorate for Emergency Situations in Suceava.

All patients who will be investigated and diagnosed in the ED will be directed to continue treatment in the small medical units in Suceava County and those with severe pathology will be directed to the medical units in Iasi. In this four days from reopening (26–30 March), 72 patients receive medical care.

Conclusions: These unprecedented measures were being taken to protect our staff and our patients and to permit the Suceava ED to provide support for the prioritised needs of the community for the forthcoming emergencies, allowing us to consolidate our emergency medicine expertise in one site which will give us a much more robust service in the weeks ahead.

#23212 : Management of traumatic isolated unilateral oculomotor nerve palsy in the emergency department and literature review

Authors:

volkan  lker (1), Volkan  lker (2), Sami Olkaç (3), Necip G khan G ner (4), YUSUF Y R MEZ (3)

1. Clinics of Emergency Medicine, Sakarya University Education and Research Hospital, Sakarya, Turkey, sakarya, Turkey
2. Department of Disaster Medicine, TC Bezmialem Foundation University, Institute of Health Sciences, Istanbul, Turkey
3. Department of Emergency Medicine, TC SB Sakarya University, Faculty of Medicine , Sakarya, Turkey
4. Emergency Medicine Unit, TC SB Sakarya University, Education and Research Hospital, sakarya, Turkey

Keywords: Emergency Department, Isolated Oculomotor Nerve Palsy, Mild Head Trauma, Mydriasis, Ptosis

Abstract :**INTRODUCTION**

Cranial nerve lesions are observed due to congenital, infectious, neoplastic formations, migraine and trauma; besides they mostly occur due to head trauma. Along with the patient's age, main complaint of administration and clinical findings, neuroradiological imaging studies guides the diagnosis. Oculomotor nerve fibers are the leading cranial nerve in these traumas. This case was written to review diagnostic processes related to isolated 3rd cranial nerve palsy and practical guide to emergency physicians.

CASE REPORT

A 57-year-old female patient was brought to the emergency room by Emergency Medical Services due to a motor vehicle accident. The history of accident was taken from the patient herself. It was seen that the patient couldn't open the left eyelid after trauma. No medical history and she was conscious, cooperative and orientated. Vital findings were normal. In the physical examination, there was a scalp incision in the right parietooccipital region and had a subcutaneous hematoma in the left frontal region. There was also no evidence of bacillary bone fracture. No motor or sensory deficits were detected in the neurological examination. However, ptosis in the left eye, loss in the direct light reflex, restricted medial movements of the eye and mydriasis were determined. The pupil was dilated and non-reactive to light. Radiological examination is normal. The patient was consulted to eye, neurology and neurosurgery clinics. She was hospitalized with the diagnosis of isolated 3rd cranial nerve palsy. After 2 months, the symptoms improved minimally and continued to observation.

DISCUSSION

The oculomotor nerve provides the eyeball's inward, upward, downward and upward-outward movements. The incidence of isolated unilateral third nerve palsy was reported to be 0-15%. Oculomotor nerve palsy can be classified in different ranges like, it may be congenital or acquired, complete or partial, accompanying pupil or containing pupil, isolated or more extensive signs of neurological involvement. Unilateral oculomotor nerve palsy is manifested as pupil enlargement, limitation of movement in the eye and ptosis. In our cases we observed these clinical findings. When faced with such a case, all other injuries should be evaluated by

comprehensive clinical/neurological examination followed by emergency imaging. A similar approach was shown in our case and no pathology was detected in imaging tests. In our case, we made the diagnosis with the clinical signs and symptoms of the patient. The absence of any lesion on CT imaging during the initial admission is considered to as a good prognosis and a high recovery rate is expected. After 4 months, the oculomotor nerve partially healed. In another reported case, hospitalized the patient for follow-up and the patient was discharged with minimal recovery and followed up closely. In our case, the patient was treated with corticosteroid for 3 days in the neurosurgical service. She was discharged after being taken under control of the outpatient clinic. After 2 months, the symptoms improved minimally and continued to observation

CONCLUSION

Isolated unilateral oculomotor nerve palsy is a rare condition usually secondary to major trauma. In addition to, there may be isolated unilateral oculomotor nerve palsy without any evidence of neuroimaging abnormality. Emergency physicians should be vigilant in such cases that should perform detailed neurological examination and clinical follow-up for the patient's complaints.

#23213 : Is there a place for another modified rapid sequence for acutely ill patients in ED?

Authors:

Cosmin Librimir (1), Cosmin Trebuian (2), Dumitru Şutoi (3), Adina Maria Mârza (1), Ovidiu Alexandru Mederle (4)

1. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
2. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
3. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania
4. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoars, Romania

Keywords: rapid sequence induction, endotracheal intubation

Abstract :

Background

Performance of a rapid sequence induction (RSI) is a high priority in many emergency situations when the airway is at risk. Despite its prevalence, (endotracheal intubation) ETI is associated with considerable patient morbidity and mortality and is considered the riskiest commonly performed procedure in acute care. RSI was been described in 1961 by Sellick and in the last decade suffered few modifications and is described as ‘modified rapid sequence’ such as ‘supine or ramped position’, use titration of induction agents up to loss of consciousness and use of high-dose rocuronium as a neuromuscular blocking agent.

Methods:

There was performed an observational study in Emergency Department (ED) of the County Emergency Hospital Resita during one-year period. The number of patients was 68 and they come in shock and presented an acute severe illness (trauma, neurological, septic and cardiogenic shock). The mean age of the patients was 64 years (23 to 89 years). The patients were randomized enrolled in two groups, being included after primary physical examination. There are two sampling criteria – one of them using classic RSI and the other one, using a modified RSI for the crush induction. All the inductions were carried out after the insertion of an arterial line and invasive blood pressure monitoring. The hypotension was corrected using the vasoactive or inotrope drugs.

Classic RSI method consisted from administration of oxygen (100%, 10–15 l/min), preoxygenation for 3 min, hypnotic drug Propofol (1.5 mg/kg IBW) and muscle

relaxant Suxamethonium (2 mg/kg IBW). The laryngoscopy was aimed at 45 sec after the administration of the muscle relaxant.

Modified RSI method consisted from administration of oxygen (100%, 10–15 l/min), preoxygenation for 3 min, opioid Fentanyl (1–2 mcg/kg IBW), hypnotic drug Ketofol (mixture of 100mg Propofol + 25 mg Ketamine, 1 mg/kg IBW), muscle relaxant Rocuronium (1.2 mg/kg IBW). The laryngoscopy was aimed in 60 sec after the administration of the muscle relaxant.

Primary outcomes of our study were patients less of unconsciousness time, conditions for intubation at the aimed time and hemodynamic stability at 1–2–5 min after ETI. The incidents recorded during/immediate after RSI required the needing an inotrope or vasoactive infusion. A Student's T-test statistical analysis was used to evaluate the primary outcomes between the two groups.

Results:

There was not statistically significant difference of age, comorbidities and illness between the two groups. The induction was straightforward performed in both groups. There was not statistically significant difference regarding the loss of consciousness time and conditions for intubation at the aimed time. There was a statistically significant difference regarding the hemodynamic stability and the requirement of a vasoactive agent post ETI. The patients included in the modified RSI group were more stable at all three periods, 1–2– and 5–minutes post RSI and required less inotrope therapy compared with the classic RSI group.

Discussion & Conclusions:

Although RSI is performed to secure the airway in patients at elevated risk of aspiration and acute illness, preparation of equipment, drugs, the team and the patient is essential.

Trial Registration / Funding Information (only) :

The study hasn't been registered, was done in a non-clinical hospital. This study did not receive any specific funding. Procedures were explained to the patients and informed consents, the hospital type, were taken.

#23214 : A comparison of the clinical features of patients with severe influenza and severe COVID-19: A retrospective study.

Authors:

Yang Huan (1)

1. , , Chengdu, China

Keywords: SARS-CoV-2, COVID-19, influenza, clinical feature, mortality

Abstract :

OBJECTIVE The clinical characteristics of COVID-19 and influenza are similar. We aimed to explore the differences in clinical characteristics between severe COVID-19 and influenza to help early screening of these two diseases.

Methods In this retrospective study, severe laboratory-confirmed cases of COVID-19 from January 31 2020 to February 25 2020 and severe influenza cases from December 31 2016 to January 20 2019 in Sichuan Province (China) were included. The primary outcome was the mortality rate, and the secondary outcomes were clinical, laboratory, radiological features.

Results 62 patients with severe COVID-19 and 784 patients with severe influenza were included. 29 (46.8%) patients with COVID-19 and 227 (36.5%) patients with influenza were female. Patients with influenza [60 (48-74)] were older than patients with COVID-19 [49 (37-65)] ($P=0.000$), and the percentage of people over 65 years old was much higher in patients with influenza [42.8% vs 22.6%, $P=0.002$]. there was no difference between the distribution of the underlying diseases in two groups [$P>0.05$], while hypertension was the most common disease in both groups. Clinical symptoms of COVID-19 and influenza were mainly respiratory symptoms, and the most common clinical manifestations at onset of COVID-19 and flu include fever [51.6% vs 77.3%, $P=0.000$], Upper respiratory symptoms [3.2% vs 18.0%, $P=0.003$], respiratory symptoms [64.5% vs 90.7%, $P=0.000$]. 251 patients (40.4%) with influenza had extra-pulmonary symptoms, which was much higher than cases with COVID-19 [7 (11.3%)]. As for the laboratory parameters, parameters like CRP, WBC, LYMPH%, RBC, BUN were not significantly different ($P > 0.05$). The results of chest CT scans were significantly different in exudation (78.8% vs 17.7%, $P=0.000$), consolidation (18.8% vs 0, $P=0.000$), nodule (36% vs 0, $P=0.000$), effusion (21.7% vs 1.6%, $P=0.000$). The mortality was 4.5% in patients with influenza, while this figure for COVID-19 infected patients was 4.8% ($P=1.000$).

Conclusions Compared with patients with influenza, patients with COVID-19 have a better physical condition and fewer respiratory symptoms. There is no difference between the mortality rate of severe COVID-19 patients and patients with influenza.

Keywords: SARS-CoV-2, COVID-19, influenza, clinical feature, mortality

Trial Registration / Funding Information (only) :

Grant : Emergency Response Project for New Coronavirus of Science and Technology Department of Sichuan Provincial (2020YFS0005, 2020YFS0009); Science and Technology Benefit People Project of Chengdu Municipality (2016-HM02-00099-SF) ; Special Funds for

#23217 : CPR-related injuries in non-survivors
--

Authors:

Mihaela Corlade-Andrei (1), Diana Cimpoesu (1), Ruxandra Agapi (2), Gabriela Grigorasi (3), Paul Nedelea (4), Ovidiu Popa (1), Anca Haisan (5), Cristina Popescu (2), Alexandru Lazar (6)

1. UNIVERSITY MEDICINE and PHARMACY , UNIVERSITY MEDICINE and PHARMACY "GR.T.POPA", Iasi, Romania
2. Emergency Departament of St. Spiridon Iasi, Emergency Departament of St. Spiridon Iasi, Iasi, Romania
3. UNIVERSITY MEDICINE and PHARMACY "Gr.T.Popa", UNIVERSITY MEDICINE and PHARMACY "GR.T.POPA", Iasi, Romania
4. UNIVERSITY MEDICINE and PHARMACY , UNIVERSITY MEDICINE and PHARMACY "GR.T.POPA", Iasi, Romania
5. University of Medicine and Pharmacy Iasi, University of Medicine and Pharmacy Iasi, Iasi, Romania
6. St. Spiridon Hospital , St. Spiridon Hospital, Iasi, Romania

Keywords: Cardiopulmonary resuscitation , cardiac arrest, injuries,

Abstract :

Purpose of the study: It is well known that cardiopulmonary resuscitation has the role of increasing survival after cardiac arrest, but it is associated with the risk of acquired injuries to the patient. We would like to give an answer to how often CPR-associated injuries are present in our patients and to explore the associated factors.

Materials and methods: In a retrospective study, we performed a manual review of all in-hospital discharge records and autopsy reports for evidence of injuries post resuscitation.

The study included 380 adult patients who died in ED of "St. Spiridon" Hospital during Jan 1st, 2018 – Dec 31st, 2019, patients who were admitted in cardiac arrest or installed cardiac arrest in ED and who was unresponsive to resuscitation manoeuvres.

The causes of cardiac arrest identified by the emergency physician and recorded in the observation sheet were statistically analysed compared to the cause identified by the autopsy study.

Results: 380 patients were included in the study, but a significant percentage did not require necropsy, because of their significant pathological history. The mean age at death was 65,44 years and 39.21% were women.

The most common post-resuscitation injuries were sternal and rib fractures – usually multiple. Abdominal visceral injuries or injuries related to airway management were rare.

36.57% of the patients were without post-resuscitation injuries and for 6.84% of patients the injuries could not be identified due to the post-traumatic lesions that have led to death. The occurrence of injuries overall was associated with the duration of chest compression.

For as much as 48,68% of the patients that required necropsy, the cause identified by the emergency physician was identical to that identified following autopsy study, but in some situations the initial diagnosis was completed with new elements.

Conclusion: Outcomes of our study suggest that older age, male gender and extended duration of chest compression were associated with CPR-related injuries. CPR-associated injuries are common, usually multiple, and they might not be potentially lethal (if return of spontaneous circulation is achieved). Older age, male gender and extended duration of chest compression were independently associated with CPR-related injuries.

#23218 : An abdominal surprise

Authors:

JUAN ORTEGA PÉREZ (1), MERITXELL VIDAL BORRÀS (2), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Hernia, Abdominal Pain, Overweight.

Ultrasound

Patient images are involved and I have adequate permission to use them

Abstract :

58-year-old female patient with a history of hypothyroidism, dyslipidemia and overweight. He went to the emergency department for presenting a tumor at the abdominal level. He says that this mass was noticed a few days ago when he leaned on a counter. No nausea or vomiting, no diarrhea, no change in bowel movements, or general discomfort. No headache or associated chest pain.

Physical examination. Vital signs: T^a35.5°C, HR 69 bpm, BP 128/72, SpO₂:98%

Physical exam: Conscious and oriented, isocoric and normoreactive pupils. Cranial pairs without alterations. Normal cardiac auscultation. Preserved vesicular murmur. Abdomen: Soft and depressible, painful on deep palpation at the level of the mesogastrium and right vacuum with the presence of a painful mass at this level. When the patient was lying supine, it is palpable less than when she was standing. Airborne noise present. No signs of peritonism.

Complementary Tests

- General analytics. Hemogram, coagulation and renal and hepatic function with PCR in normal limits.
- Urine sediment. Normal.
- Venous blood gas: pH 7.37, lactic 0.9, Hb 14.5.

Abdominal hernia, neoplastic tumor as differential diagnosis.

I perform an abdominal ultrasound in which a small discontinuity of the musculature of 0.8 cm was observed on the right flank (where the patient has pain). It could be an abdominal wall hernia.

In this situation, an abdominal CT was requested, which was observed between the aponeurosis of the oblique / transverse muscles and the right anterior rectus muscles, a tumor compatible with Spiegel's hernia. It measured about 3 x 2 x 2.6 cm, with a 1.3 cm neck.

Conclusion:

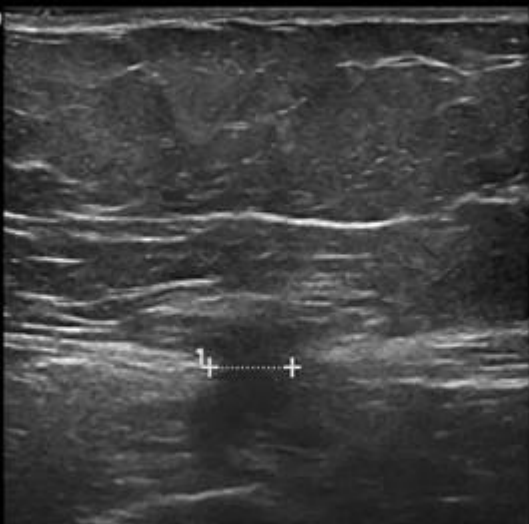
A Spigelian hernia is the type of ventral hernia where aponeurotic fascia pushes through a hole creating a bulge. This kind of hernias is rare compared to other types. It develops between fascia tissue that connects to muscle, not under abdominal fat.

It is so important to think about it because it has high risk to become strangulated. The best way to diagnosis is with ultrasound imaging or CT scan. Before these imaging tests we must have a suspected diagnosis and do a correct and systematic exploration.

The emergency physician plays a very important role in the diagnosis of abdominal hernias during the history and examination.

FR 19

LOGIQ
E9



B
Frec. 15.0
Gn 45
S/A 2/1
Map: A/0
D 5.0
DR 60
AO% 100

2

1

4

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1 L 0.79 cm

#23219 : Is lactate clearance a good predictor for the prognosis of ED acutely ill patients?**Authors:**

Cosmin Librimir (1), Cosmin Trebuian (2), Dumitru Şutoi (3), Adina Maria Mârza (1), Ovidiu Alexandru Mederle (1)

1. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
2. Emergency Department, University of Medicine and Pharmacy "Victor Babeş" from Timișoara, Timisoara, Romania
3. Clinical County Hospital „Pius Brînzeu” Timișoara, Clinical County Hospital „Pius Brînzeu” Timișoara, Timisoara, Romania

Keywords: lactate, clearance, ABG

Abstract :**Background:**

Lactate is a widely used biomarker for patients with conditions such as hypovolemic, cardiogenic, septic shock. The value of lactate level in risk stratification is rarely investigated for patients admitted to the Intensive Care Unit (ICU), regardless of diagnosis. The aim of study was to emphasize how lactate is used in the intensive care unit. We describe the use of lactate as a predictor of outcome, as a marker to initiate therapy and to monitor adequacy of initiated treatments, using measurements of lactate at 1–2–6h in ED in patients in shock.

Methods:

The study was conducted over a period of two years in 403 patients with shock who came in Emergency Department (ED) of the County Emergency Hospital Resita. Patients were randomized enrolled in two groups, being included after primary examination, aged between 23–91 years.

Volemic resuscitation was performed in the first hour with 20 ml / kgc crystalloid solutions in all patients. Arterial blood gases (ABG_s), parameters that correlated with lactate, ph. and bases excess (BE) were followed. We administrated Noradrenaline +/- Dobutamine in patients which did not had MAP above 65 mmHg.

Results:

Treatment of hyperlactatemia should relate to its pathophysiology. When the likelihood of tissue hypoperfusion is real, increased lactate levels should be an indication to improve tissue perfusion. Crystalloid and colloid solutions are both effective in restoring perfusion in case of hypovolemia and sepsis.

Vasopressors and inotropic agents should be administered as needed. It is important to consider that the use of epinephrine is associated with increases in lactate not related to tissue hypoperfusion but increased glycolysis, glycogenolysis, and stimulation of the Na–K–pump.

The balance between oxygen delivery and oxygen demand can be improved by ameliorating

oxygen delivery by packed red blood cell transfusions as well as augmenting cardiac output, increasing SaO₂ by intubation and improving microcirculatory perfusion by enhancing regional blood flow with, for example, dobutamine, enoximone, or nitroglycerin or by decreasing oxygen demand by mechanical ventilation.

Optimal management for patients with elevated arterial lactate levels remains certain. Lactate clearance may prove to be a reasonable therapeutic target, given its prognostic value and use regarding shock.

Discussion & Conclusions:

The pathophysiology of hyperlactatemia is complex with hypoxic and nonhypoxic mechanisms, often coinciding. Hyperlactatemia is a strong predictor of mortality in diverse populations of critically ill patients. However, it is still unclear how lactate levels influence clinical decision-making regarding admission policies or end-of-life decisions. Increased lactate levels have a prominent place in the early treatment of critically ill patients, whereas the effects later during ICU admission are unknown. An increase in lactate levels or even no change should warrant the treatment team to reconsider the diagnosis and treatment.

It is important to monitor the ABG_s with lactate, ph. and BE and resuscitate according to each patient, the clarity of the lactate within 6 hours being an indicator of the patient's prognosis.

#23220 : Ambulatory care : A TIME AND PLACE

Authors:

Octav CRISTIU (1), GILLIGAN PEADAR (2)

1. EMERGENCY MEDICINE, EMERGENCY MEDICINE, DUBLIN, Ireland
2. EMERGENCY MEDICINE, BEAUMONT HOSPITAL RCSI, DUBLIN, Ireland

Keywords: AMBULATORY, WARD, TIME , CLINICAL NURSE MANAGER

Abstract :

INTRODUCTION:

A new approach to ambulatory care was introduced in Beaumont Hospital on May 3rd 2019 . The patients who historically would have been admitted to a ward bed for investigation and treatment had their care " fast tracked " in the Emergency Department. Patients in this ambulatory pathway are under the care of the relevant on call service but nursed by the Emergency Department nursing staff in the Emergency Department. A Clinical Nurse Manager was appointed to help expedite the investigations and coordinate the care of patients undergoing ambulatory care. For these patients radiology investigations (MRI, CT, US, Xray) and laboratory investigations were prioritised to facilitate quick decisionmaking. This study was performed to assess the impact of this intervention on Emergency Department performance indicators and patient care. METHODS:

Data was gathered from the Emergency Department information system on all attendances to the Emergency Department from 1/5/2019 to 31/8/2019. Data was analysed using an excel spreadsheet. Descriptive statistics are used to present the data. Data on the patient experience times of those on the Ambulatory pathway was compared with those not requiring admission and those admitted to the wards under the on call services.

RESULTS:

The number of presentations to the ED over the four month study period was 19,789 of whom 857 patients were placed on the ambulatory pathway. During the study period the average PET for patients discharged by the Emergency Medicine team without onward referral (11,436) was 6 hours 32 minutes. The average time in the Emergency Department for patients referred to the on call services (6482) was 14 hours and 4minutes. The average time in the Emergency Department for the 857 patients on the ambulatory pathway was 21 hours 53 minutes with 326 (38%) spending more than 24 hours in the ED. 46% (398) of those on the ambulatory pathway went on to ward admission. Of the ambulatory patients where no bed request was generated their average length of stay in the ED was 19 hours 13 minutes with 71 (25%) being there in excess of 24 hours.

CONCLUSIONS:

Patients on the ambulatory pathway spend an average of 21hours 53 minutes in the Emergency Department of whom 46% require admission to a ward bed. Of great concern is the fact that 38% of ambulatory patients are in the ED for in excess of 24 hours. Ambulatory care does have a time and place but it should be performed in an appropriate setting and appropriately resourced. Care that utilises clinical space in an already crowded ED and uses nursing resource in a busy Emergency Department should be provided in an ambulatory care area and not in the ED.

#23221 : Emergency Medical Services Personnel's willingness to respond during a future crisis.

Authors:

Olivier Hoogmartens (1), Marc Sabbe (2), Luc Mortelmans (3), Erik Genbrugge (3)

1. Institute for Healthcare Policy, University of Leuven, Zolder, Belgium
2. University Hospitals of Leuven, KU Leuven, Leuven, Belgium
3. ZNA Stuivenberg, Hospital Network Antwerp, Antwerp, Belgium

Keywords: Crisis, Pandemic, Terror, Disaster, Willingness, Response, EMS, Paramedic

Abstract :**Introduction**

The willingness of healthcare workers (HCW) to respond is an important factor in the health system's response capacity during emergencies. Paramedics, as emergency HCW and 'frontline' responders, are expected to be both willing and able to respond when disaster strikes. In this study, we assessed the willingness of EMS providers to respond in 8 different scenarios when the situation poses a possible threat to their own safety, their co-workers, or that of their families.

Methodology

An online survey looking for demographic parameters, self-reported risk, knowledge and willingness to respond on 8 potential scenarios was presented to Flemish ambulance personnel through their professional organization, the Belgian Ministry of Health and voluntary societies like the Red Cross.

Results

The online survey yielded 1456 respondents, which counts for 1/3rd of the whole Flemish paramedic population. Male/Female ratio was 80/20 and 31% of the respondents reported that they were professional ambulance personnel. Mean age was 21 years and 34% stated they had some disaster training before. 73% had a practical training in the use of personal protective equipment and 43% in decontamination, the majority was trained by their employer. 86% of the respondents stated that they could use a tourniquet, 65% military hemostatic bandages and 36% radio-detection equipment. 78% found it absolutely necessary to include this training in the basic HCW training curriculum.

Self-estimated risk for incidents to occur ranged from 3.9/10 for floods to 6.25/10 for mass shooting incidents. Self-estimated knowledge varied from 3.38/10 for biological incidents over 3.5/10 in nuclear incidents, 3.81/10 for Ebola outbreak to 5.69/10 in mass bombing incidents and 5.73/10 in mass shooting incidents.

Willingness to respond scores increases from 3.7/10 in nuclear and 4.0/10 in biological incidents, over 4.2/10 during infectious diseases with a widespread impact in the country, and 4.75/10 in case of a chemical plant failure. During a pandemic crisis 5.0/10 and 6.8/10 in case of massive flooding, indicated a high willingness to respond. Finally, 7.0/10 pointed out that they will respond for duty in mass shootings and a similar ratio in bombing attacks.

Discussion/Conclusion

On the morning of 22 March 2016, three coordinated suicide bombings occurred in Belgium: two at Brussels Airport in Zaventem, and one at Maalbeek metro station in central Brussels. Thirty-two civilians and three perpetrators were killed, and more than 300 people were injured. Another bomb was found during a search of the airport. Although self-estimated risk and knowledge scores are rather low in most of the 8 scenarios, the respondents indicated a high willingness to respond in case of a mass shooting incident or a bombing attack. As an explanation for this numbers, we hypotize that witnessing an incident might improve confidence and as a consequence, increase the willingness to respond during large emergencies. This has to be evaluated on a larger study population within a broad EMS network.

#23222 : Pediatric Opioid Exposures in the United States

Authors:

Saumitra Rege (1), Christopher Holstege (1)

1. Division of Medical Toxicology, Department of Emergency Medicine, University of Virginia, Charlottesville, USA

Keywords: Pediatrics, Opioids, Overdoses, Misuse, Trends

Abstract :

Background: Pediatric accidental exposures present a significant public health challenge and can result in serious complications, with approximately 60% calls received by poison centers (PCs) in 2017 attributed to children. There were 4,235 fatalities among patients aged 15-24 as a result of a drug-related overdose in 2015 in the United States with more than half of these involving opioids. The aim of this study was to evaluate the pediatric opioid exposures reported to the United States Poison Centers (PCs).

Methods: A retrospective study was conducted utilizing the National Poison Data System (NPDS). Pediatric exposures, defined as per NPDS specifications as individuals aged ≤ 19 years, to opioids were identified using generic codes. Serious medical outcomes (SMO) were defined as cases that resulted in moderate or major outcomes as well as deaths. Descriptive statistics were used to analyze the characteristics of pediatric exposures. Poisson regression models were used to evaluate the trends in the number and rates of exposures with the year as the independent variable. Important risk markers for (SMO) were highlighted using multivariable logistic regression models. We reported adjusted odds ratios (AOR) and the corresponding 95% confidence intervals (CI).

Results: There were 101,201 pediatric opioid exposures reported to the PCs during the study, with 21% of the cases demonstrating SMO. The proportion of patients under 5 years of age was significantly lower in exposures with SMO (21.9% vs 78.1%). The proportion of SMO during the study period increased from 15.2% to 21.1%. Demographically, the exposures with SMO occurred more frequently in males (54.1% vs 45.3%). The proportion of suspected suicides (46% vs 21.6%) and intentional abuse (20.4% vs 5.8%) was higher among exposures with SMO, primarily driven by the teenage population. More than 80% of the cases under 5 years of age resulted from accidental exposure to opioids. Single substance exposures were more common in exposures without SMO (53.5% vs 42.7%). Multiple opioids were reported in 7.5% of SMO exposures and 2.8% of exposures without SMO. The most common site of exposure in both groups was residence while hydrocodone and oxycodone were the most commonly reported opioids. Children between 6 and 19 years of age had a 35% higher risk of such outcomes (AOR: 1.35, 95% CI: 1.27 – 1.44) (Reference: 0 – 5 years). Similarly, males had a significantly higher risk of SMO compared to females (AOR: 1.19, 95% CI: 1.14 – 1.23). SMO were 4 times more likely in cases of intentional abuse (AOR: 4.78, 95% CI: 4.47 – 5.13). Serious outcomes were also significantly associated with exposure to multiple substances (AOR: 2.18, 95% CI: 2.10 – 2.27).

Conclusions: Our study noted an increase in the proportion of serious medical outcomes among pediatric opioid exposures which highlights the need for greater attention to managing prescriptions and increasing patient awareness regarding the safe storage and adverse effects of these medications. The reasons for exposure varied among different pediatric age groups. Several factors independently increased the risk of serious medical outcomes in this patient population.

Trial Registration / Funding Information (only) :

N/A

#23223 : Appropriateness of Packed Red Blood Cells Transfusions in Chronic Anemic Patients in the Emergency Department: The TRANSFUS-ED Retrospective Analysis**Authors:**

Federico Rebusello (1), Fabio Rigon (2), Vito Cianci (3), Matteo Paganini (4)

1. Emergency Medicine Residency Program , University of Padova, Padova, Italy

2. Medical School , University of Padova, Padova, Italy

3. Emergency Department, Azienda Ospedaliera di Padova, Padova, Italy

4. CRIMEDIM – Research Center in Emergency and Disaster Medicine, University of Eastern Piedmont, Novara, Italy

Keywords: Packed Red Blood Cells; Transfusion; Chronic Anemia; Cost

Abstract :

Background: Anemia is a common disease, with a significant clinical impact particularly evident in the elderly. Transfusion with packed red blood cells (PRBCs) is the mainstay treatment for acute anemia due to bleeding. Also, patients with chronic anemia can benefit from periodic, scheduled transfusions, while urgent PRBCs administration in this subset of patients has strict indications. Since PRBCs are a limited, perishable, and expensive resource, their use must be outweighed by benefits. However, far too little attention has been paid to PRBCs transfusions in chronic anemics in the Emergency Department (ED), and the aim of this study was to assess the appropriateness of such practice.

Methods: A retrospective analysis was performed on electronic charts, including patients who accessed the ED of the Azienda Ospedaliera di Padova (Padova, Italy) between 2016 and 2018 and received PRBCs transfusions. Patients aged > 16 years old and with chronic anemia were included, while those with acute anemia or admitted to the hospital after the transfusion were excluded. Chronic anemia was defined as satisfying one of the following in the past medical history from ED charts: diagnosis of chronic anemia (and type); two or more blood samplings demonstrating anemia before the access to the ED; a history of periodic transfusion. As the primary outcome, the appropriateness of transfusions was assessed according to the American Association of Blood Banks (AABB) 2016 criteria. In particular, AABB promotes a restrictive strategy, recommending a threshold of 7 g/dl for adults who are hemodynamically stable, and 8 g/dl for patients with preexisting cardiovascular disease. The secondary outcomes were: the check of hemoglobin between each unit infused; cost analysis; adverse outcomes.

Results: 782 records were selected, and 259 were included in the study. According to our criteria, 132 patients (51.0%) were inappropriately transfused. Moreover, in 159 out of 259 transfusions (61,4%), patients received two or more PRBCs without a previous check of hemoglobin levels. Overall, the inappropriately carried out transfusions resulted in an estimated cost of € 26,700 (only for PRBCs). No adverse events were registered.

Discussion and Conclusions: With this study, we showed that transfusions in chronic anemic patients are a recurrent event in the ED and are frequently inappropriate. A possible explanation could be the lack of a well-structured healthcare network granting periodic transfusions to this

subset of patients, available several times per week in a dedicated clinic. Our analyses also showed that hemoglobin was not checked before infusing another PRBC unit in 61.4% of cases, as per AABB recommendations. This strategy could be explained if thinking that emergency physicians tried to reduce the length of stay of these patients in the ED. In the future, implementing and improving patient access to transfusion services through dedicated pathways could reduce the burden of chronic anemic patients transfused in the ED for non-urgent causes, and also reduce the costs related to urgent transfusions.

Trial Registration / Funding Information (only) :

None declared

#23224 : Antibiotic prescription in a hospital emergency department

Authors:

Jose Minguez Platero (1), Maria del Mar Lopez Ibañez (2), Patricia Cogollos Redolat (1), Yoshio Silvero (1), Juan Carlos Montalva Barra (1), Ricardo Garcia Bayo (1)

1. Emergency Department, Hospital General d' Ontinyent, VALENCIA, Spain
2. , -, VALENCIA, Spain

Keywords: Antibiotics; Hospital emergency health services. Prescriptions. Patient safety

Abstract :

Objectives: To analyze the prescription of antibiotics in a hospital emergency department (ED) by assessing time elapsed until the first antibiotic dose and adjustment according to the findings for microbiology.

Methods: Patients were included consecutively on receiving a first intravenous dose of an antibiotic in the ED. The patients were followed prospectively while they were on antibiotic treatment.

Results: We included 63 patients. The median time until the first dose was 180 minutes from the time of arrival in the department; the mean time was 218 minutes. The median time from first medical evaluation until the first dose was 120 minutes; the mean time was 135 minutes. Five of the 63 patients had severe sepsis and 1 were in septic shock. In these patients the mean time between physician evaluation and first antibiotic dose was 109 minutes (severe sepsis) and 73 minutes (septic shock). In 82,5% treatment was adjusted based on results of microbiology.

Conclusions: Time elapsed until the first antibiotic dose administered in the ED is longer than recommended even for patients with severe sepsis or in septic shock.

#23225 : The choice of pain assessment scale influences emergency department triage grading

Authors:

Jose Minguez Platero (1), Maria del Mar Lopez Ibañez (2), Patricia Cogollos Redolat (1), Yoshio Silvero (1), Juan Carlos Montalva Barra (1), Ricardo Garcia Bayo (1)

1. Emergency Department, Hospital General d' Ontinyent, VALENCIA, Spain
2. , -, VALENCIA, Spain

Keywords: Pain. Visual analog scale. Verbal numeric scale. Triage

Abstract :

Objectives: To evaluate agreement between visual analog scale (VAS) and verbal numeric scale (VNS) pain assessments and explore whether using one scale or the other affects triage grading.

Method: Prospective descriptive observational study that included patients over the age of 14 years who came to the emergency department with pain. The patients assessed pain on both a VAS and a VNS. Information was input to a database for descriptive statistics (frequencies).

Results: The mean (SD) VAS rating was 5,9. The mean VNS rating was 7,2. When the VAS pain rating was used as the basis for triage, a priority level 3 was assigned to 112 patients (57,4%) and a level 2 priority to 20 (10,3%). When the VNS pain rating was the basis for triage, 96 patients (49,2%) were assigned to level 3 priority and 34 (17,4%) to level 2 priority.

Conclusions: The VAS and VNS pain rating instruments are not interchangeable. Pain assessments are higher when the VNS is used. We advise use of the VAS in the ED for triage and until the patient is discharged.

#23226 : A cloudy noise in your heart

Authors:

JUAN ORTEGA PÉREZ (1), MERITXELL VIDAL BORRÀS (2), BERNARDINO COMAS DÍAZ (1)

1. ADULT EMERGENCY DEPARTMENT, HOSPITAL UNIVERSITARI SON ESPASES, PALMA DE MALLORCA, Spain
2. RADIOTHERAPY DEPARTMENT, HOSPITAL UNIVERSITARI DE GIRONA DOCTOR JOSEP TRUETA, GIRONA, Spain

Keywords: Bacterial endocarditis, Fever, Systolic murmurs**Abstract :**

A 61-year-old male patient with no history of interest. He came to the emergency department for presenting a 20-day evolution evening fever, as well as night sweats. Polyarthralgias and anorexia appeared over the days. No cough or expectoration. No abdominal pain, no voiding syndrome. No general discomfort (had not stopped working). No dental interventions or recent trips. New couple for the last 2 months.

Physical examination. Vital signs: T^a39°C, HR 112 bpm, BP 139/83, SpO₂:98%**Physical exam:** Conscious and oriented, isocoric and normoreactive pupils. Cranial pairs without alterations. Cardiac auscultation with a systolic murmur IV / VI in aortic focus, not irradiated (not known or present in previous reports). Preserved vesicular murmur. Abdomen: Soft and depressible, no pain. No lymph nodes were palpable in the neck or armpits.

With this symptoms and signs the history of a new partner, an infectious cause is considered: infectious endocarditis, sexually transmitted disease, neoplasms such as lymphoma or connective tissue diseases, especially systemic lupus erythematosus.

Clinic history. Treatment and action plans:

Complementary Tests

- General analytics. Hemogram, coagulation and renal and hepatic function with 9.48 mg/dL of CRP.
- Urine sediment. Normal.
- Chest radiography: Normal.
- Blood and urine cultures were performed.

Paracetamol is prescribed and the patient improved. We decided admission because we had high suspicion of bacterial endocarditis.

We started antibiotic treatment with ceftriaxone 2 grams per vein while waiting for culture results. The day after, blood cultures were positive and they showed us growth of *S. sanguinis*. After that a transesophageal echocardiogram was performed with images of vegetations in the aortic valve. Surgical intervention is performed with correct evolution.

Conclusions

It is so important that the emergency physician in the clinical history and in the differential diagnosis with symptoms that can be explained by patients in the emergency department. All of these, add to signs and vital signs, can be used to do a good diagnosis and the best treatment in all situations.

The diagnosis of bacterial endocarditis is significant because of its complications. We must think about it with any finding of unknown fever in the last days, without focus and with a new onset murmur.

A good medical history and a good physical examination is essential for a wide differential diagnosis and to be able to guide patients in the best possible way and to admit if it is necessary.

#23227 : A case of Cavernous sinus thrombus in an immune thrombocytopenia (ITP) patient , uncommon complication and atypical presentation

Authors:

Adel Ahmed Fraij Zahran (1), Mohamed Yassin Mitwalli (2)

1. Emergency Department, Hamad Medical Corporation, Doha, Qatar
2. Emergency Department, Hamad Medical Corporation, doha, Qatar

Keywords: Cavernous sinus thrombus, immune thrombocytopenia, ITP, ED

Abstract :

Severe headache in a case of immune thrombocytopenia with low platelet count on presentation, CT images showed cavernous sinus thrombosis which is related to (Eltrombopag) the medication that she is taking to increase the platelet synthesis, the management options included IVIG, steroids and heparin infusion along with platelet transfusion, the patient improved and was discharged after 15 days of admission to our hospital.

Attachment: my Eposter_Template_2020.pdf

#23228 : A Covid19 patient Medevac from remote site in Amazonian area

Authors:

Alexis Fremery (1), Pierre Chesneau (2), Aurélia Stanislas (2), Pierre Sallerin (2)

1. Emergency Room, Centre Hospitalier de Cayenne, Cayenne, France
2. Emergency Room, Centre Hospitalier de Cayenne, cayenne, France

Keywords: Covid19, Medevac, Amazonian area

Other

Patient images are not involved

Abstract :

French Guyana is located at the north of South America neighbor of Brazil and Surinam. The main part of this French territory is covered by the amazonian tropical forest without any ground access to reach remote areas. Over 30% of the population is living there and the only way to carry patients out is by helicopter. The Mobile Emergency and Resuscitation Service (MERS) 973 is accountable for the transportation of patients from remote areas to the most appropriate health facilities.

Locally, the first cases of Covid19 have been identified on March, the 4th of 2020. Due to the mode of contamination and to prevent the spread of the virus into the cabin of the chopper within the one-hour flight, our teams are using an isolation stretcher with negative pressure and biological filters.

That kind of medical transport requires a specific technicity and training. This is valid only for patients with steady medical condition because the isolation stretcher doesn't suit with resuscitation practices within the flight. By the way, the medical team must particularly pay attention to the disinfection of the asset in order to not expose a third party within the transfer.



#23229 : The importance of prone decubitus positioning in a covid + patient**Authors:**

Miriam Uzuriaga Martín (1), Vanesa Isaac (2), Santiago Blanco Rey (3), Cristina Barreiro Martínez (4), Jordi Arnau Marsá Domingo (1), Gloria García Herrero (1), Julian Torrejon Pulido (5), Pilar Varela García (5)

1. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
2. emergency care, SUMMA 112, Madrid, Spain
3. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain
4. emergency care, summa 112, Madrid, Spain
5. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain

Keywords: #Prone decubitus #Covid + #Summa112

Abstract :

SUMMA 112 is reported by a 43-year-old male due to dyspnea, cough and fever of 6 days of evolution. Patient in contact with a confirmed covid + patient. At our arrival, patient with tachypnea at 36 breaths per minute, pale, sweaty, temperature of 38.2°C. At the time of monitoring, prior placement of our individual protection equipment we aimed at a blood pressure of 100/50 mmHg and a saturation of 75%. As the only previous personal history, the patient presented asthma with good control.

Given these criteria, the patient should be intubated for optimal airway control. The transfer time of the patient to the receiving hospital is 40 minutes, so it was decided to initially transfer the patient with oxygen at 15 liters / minute with a reservoir in the prone position and if it evolves unfavorably, finally perform endotracheal intubation. Finally, we managed to stabilize the patient by transferring the patient into a prone position, achieving a decrease in respiratory work at 28 rpm and saturations of around 92%.

Placing the patient in the prone position is a non-invasive technique that has proven effective in various studies as an additional therapeutic measure in the treatment of patients with ARDS (Acute Respiratory Distress Syndrome), understanding as such a clinical picture of Rapid onset severe dyspnea, hypoxemia, and bilateral lung infiltrates.

The Spanish Ministry of Health, in its technical document for the Clinical Management of Covid-19 in the ICU, where scientific societies such as the Spanish Society of Intensive, Critical Medicine and Coronary Units (Semicyuc) have participated, points to two cases in which this technique is suitable for coronavirus patients:

- In the case of the pediatric ICU.
- In the case of invasive mechanical ventilation: When the Pa / FIO₂, despite administering high concentrations of O₂, is less than 150, it is necessary to place the patient in the prone position as soon as possible and ventilate the patient in this position for at least 16 hours. . The hydric balances must be negative to avoid an excess of liquids in the lung.

The benefits of using the prone maneuver include:

- Changes in diaphragmatic mobility.
- Evacuation of secretions.
- Perfusion redistribution.
- Improved ventilation.

Randomized and controlled studies have confirmed the improvement of oxygenation. Improvement in mortality has not been demonstrated so far. But it is not a technique without complications, being sometimes difficult to carry out (obesity, external fixators, pregnancy, etc.).

#23231 : Is it just a leg pain?

Authors:

Octav CRISTIU (1), GILLIGAN PEADAR (2)

1. EMERGENCY MEDICINE, EMERGENCY MEDICINE, DUBLIN, Ireland
2. EMERGENCY MEDICINE, BEAUMONT HOSPITAL RCSI, DUBLIN, Ireland

Keywords: Pain, swelling, redness, thrombosis

Abstract :

Introduction: 32 years old male presented to the emergency department with leg pain and swelling after a 4 days holiday in Ireland. Patient is due to fly back to Canada a day after presentation. The leg pain is quite debilitating and he is unable to walk properly.

Methods : we present the case of a male patient presenting to our department with leg pain and unable to walk. On exam : the left leg at thigh was 55 and the right was 45 pulses were present and capillary refill was less than 2 leg was looking dusky. No shortness of breath or chest pain. patient was sent for a Doppler Ultrasound of the leg. patient also had a set of bloods and all were normal with the exception of a d dimer of 7 normal less than 0.5

Results: doppler US was negative for a clot and report showed again no clot up to the iliac veins. Because of clinical concern patient was assessed by the vascular team and recommended a ct venogram of the lower limbs that revealed a clot extending into the inferior vena cava due to May Thurner syndrome. patient was started in anticoagulation and had coagulation studies done all normal. A week after this episode patient presented with facial numbness and left arm numbness MRI revealed a corona radiata small infarct.

Conclusions: we, as emergency physicians, need to think above the investigations results and look for alternative methods of getting to the bottom of the problem in this case the ct venogram helped us establish a diagnosis. Deep venous thrombosis can be missed on Doppler Ultrasound. Ct venogram is the best investigation for establish a diagnosis.

#23232 : Serum albumin is helpful for predicting neurological outcome within 28 days following in-hospital cardiac arrest

Authors:

Peng Yao (1), Yu Cao (1), Yarong He (1)

1. Department of Emergency Medicine , West China Hospital, Sichuan University, Chengdu, China

Keywords: Serum albumin concentration, post cardiac arrest, neurological outcome

Abstract :

Background: Previous study indicated that serum albumin concentration (SAC) was a good predictor for the neurological outcome of out-of-hospital cardiac arrests (OHCA). However, the potential of assessing the SAC has not been discussed when determining the neurological outcome within 28 days following in-hospital cardiac arrest (IHCA).

Methods: This was a retrospective study of IHCA patients with SAC test before or after return of spontaneous circulation and after (ROSC) during Jan 2012 to December 2014. We used receiver operating characteristic (ROC) curve to investigate the best subsets of SAC-related variables for neurological outcome, which included SAC1 (baseline); SAC2 tested within 24 hours post ROSC; Δ SAC: the difference of SAC2 and SAC1; SAC3: sum of SAC1 and SAC2. Cerebral Performance Category (CPC) score (1–5) was determined for the index of neurological outcome.

Results: A total of 159 patients were enrolled, including 105 (66.04%) males and 54 (33.96%) females, the mean age of them were 59 (28) years old. 23 (14.47%) patients maintained favorable neurologic status in 28-day follow-up initial favorable neurologic outcomes (CPC 1–2), and the other ones got unfavorable neurologic outcomes (CPC 3–5) over 28-day follow-up. Univariate analysis indicated that all SAC1, SAC2 and SAC3 were significantly different between the two groups. The ROC curve analysis indicated that SAC2 possess a priority value in predicting good neurological outcome for IHCA patients, with its area under the ROC curve (AUC) as 0.746 (95% CI: 0.625–0.867), much better than that of SAC1 (0.633, 95% CI: 0.505–0.761) and SAC3 (0.708, 95% CI: 0.586–0.830). The cutoff value SAC2 was 29.7g/L, with its sensitivity and specificity being 78.3% and 72.8%, respectively.

Conclusions: A higher SAC tested within 24 hours after ROSC might be a useful index for the prediction of short term neurological outcome for IHCA survivors. Further Prospective studies are needed to validate these findings.

Trial Registration / Funding Information (only) :

Trial Registration: The study was not registered, because this was a retrospective study. A trial registration will be conducted as we are going to perform a prospective study about this topic. Funding: This study was supported by 1.3.5 project for disciplines of excellence, West China Hospital, Sichuan University.

#23233 : Life-Saving Procedures Performed in the Pre-Decontamination Area while wearing CBRNe Personal Protective Equipment: A Manikin Randomized Trial**Authors:**

Giulia Mormando (1), Chiara Alexopoulos (2), Sandro Savino (1), Daniele Pomiato (3), Nicola Bortoli (3), Fabrizio Fabris (1), Matteo Paganini (4)

1. Department of Medicine (DIMED), University of Padova, Padova, Italy
2. Emergency Medicine Residency Program, University of Padova, Padova, Italy
3. Emergency Medical Service Dispatch Center, ULSS 3 Serenissima, Venezia, Italy
4. CRIMEDIM – Research Center in Emergency and Disaster Medicine, University of Eastern Piedmont, Novara, Italy

Keywords: CBRNe; Personal Protective Equipment; Simulation; Resuscitation; CPR; Combat Tactical Care

Abstract :**Background**

Out-of-hospital care during Chemical-Biological-Radiological-Nuclear-explosive (CBRNe) events have recently evolved, but the available knowledge is still extremely partial. In particular, the debate is still ongoing regarding which life-saving maneuvers should be implemented in the pre-decontamination phase while wearing CBRNe personal protective equipment (PPE). To date, there is no published work regarding PPE impact on combat casualty care procedures. We hypothesized that PPE may lengthen the execution times and worsen the success rate of invasive and non-invasive procedures.

Methods

This is a randomized trial, involving residents in emergency medicine and anesthesia/critical care of the University of Padova (Italy). The study was performed on high-fidelity manikins, after the randomization of participants into two groups: wearing and not wearing PPE. Only the researcher performing outcome analysis was blinded to the study contents. Residents performed the following procedures: positioning of peripheral venous access; intraosseous access; drug preparation and administration; tension pneumothorax (PNX) needle decompression; tourniquet positioning; chest compressions (CCs) as per American Heart Association guidelines for Basic Life Support of 2015. The primary outcome was the chest compressions depth mean difference between groups. As secondary outcomes, we measured differences between groups in: percentages of correct release during CCs; CCs rate (beats per minute); and times needed to complete the above-mentioned procedures (other than CCs). Parameters regarding CCs were measured through the manikin's internal recording system. Researchers recorded times and controlled the correct execution of procedures, according to a manual made available to researchers only; procedures were verbally disclosed to participants before the experiment. In case of errors, the participant was granted another attempt, and excluded if failing a second time. After normality check with the Shapiro-Wilk test, we tested the difference between groups with a t-student or a Mann-Whitney tests, and p-values <0.05 were considered statistically significant.

Results

Thirty-six residents participated in the study. None of them were excluded due to errors during the procedures. No significant differences between the PPE and the no-PPE groups were found regarding the depth of CCs (mean difference: 0.26 cm [95% CI: -0.26, 0.77 cm; p = 0.318]), percentage of correct chest release (p = 0.204), CCs rates (p = 0.537), and time for drugs preparation and administration (p = 0.125). On the other hand, times spent to perform procedures wearing PPE showed to be significantly slower in tourniquet application (p < 0.001), positioning of peripheral venous access (p < 0.001), intraosseous vascular access (p < 0.001), and PNX decompression (p = 0.014).

Discussion and conclusion

According to the results, it seems reasonable to perform CPR before decontamination, but only when antidotes or devices are immediately available and their administration/application could save lives. On the other hand, PPE severely impacted the rapidity of other procedures requiring dexterity, such as obtaining accesses to administer drugs or placing a tourniquet. However, these interventions should be performed, especially because bottlenecks at decontamination point considerably slow the final delivery of care to CBRNe patients and such procedures could rapidly prevent or solve cardiac arrest.

Trial Registration / Funding Information (only) :

Clinicaltrials.gov registration: NCT04367454 None funding declared.

#23234 : The importance of a good differential diagnosis. Angelman syndrome

Authors:

Miriam Uzuriaga Martin (1), Santiago Blanco Rey (2), Vanesa Isaac (3), Jordi Arnau Marsá Domingo (1), Cristina Barreiro Martinez (4), Jose Mora Alcalá (5), Natalia Valencia Gonzalez (5), Julian Torrejon Pulido (5)

1. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
2. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain
3. emergency care, SUMMA 112, Madrid, Spain
4. emergency care, summa 112, Madrid, Spain
5. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain

Keywords: #Angelman syndrome #Summa112

Abstract :

We are notified as a 14-month-old child for epileptic crisis. Upon our arrival patient with a tendency to sleep. His parents say that as a personal history, he highlights that the child has an angelman syndrome. When monitoring the patient, we observed a blood pressure of 90/60 mmHg, a heart rate of 130 bpm and a temperature of 38°C. The question is raised whether the seizure is a febrile crisis, common in children of that age range, or is it a manifestation of Angelman syndrome.

Febrile seizure is a response of the brain to fever that occurs in some healthy children between 6 months and 5 years of age. They almost always occur in the first two days of fever. Also, after the first episode, 1 in 3 children has another seizure. Some children are more likely to have seizures when they have a fever. The cause is unknown. They are caused by virus infections. Any banal infection (catarrh, angina, gastroenteritis) with fever is capable of triggering a febrile seizure. Sometimes the seizure is the first sign that tells us that the child has a fever.

Angelman syndrome patients are apparently normal at birth. Feeding difficulties and hypotonia may occur in the first 6 months of life, followed by psychomotor retardation between 6 months and 2 years of age. Generally, from the first year on, the typical characteristics of SA develop: profound intellectual disability, absence of speech, outbursts of laughter with hand flapping, microcephaly, macrostomy, maxillary hypoplasia, prognathia and neurological problems with marionette-type gait, ataxia and epileptic seizures with specific abnormalities on the electroencephalogram (EEG) (delta activity with triphasic elements with greater expression in the frontal regions). Other signs described include happy appearance, hyperactivity without aggressiveness, poor attention span, excitability, and sleep disturbances with decreased need for sleep, increased sensitivity to heat, attraction and fascination with water. With age, the typical characteristics of the disease are less marked and facial thickening, thoracic scoliosis and mobility problems appear. Thoracic scoliosis is described in 40% of AS patients (most of them women). Epileptic seizures persist into adulthood, but hyperactivity, poor attention span, and sleep disorders improve. In patients with deletion of the 15q11 region, hypopigmentation of the iris and choroid are common.

A good differential diagnosis is important in order to properly diagnose patients. In this case, the patient was given antithermal measures (iv paracetamol). Subsequently, after resolution of the episode due to febrile crisis, the patient had crises due to his basal disease that required treatment.

#23236 : The efficacy of tranexamic acid in anaphylaxis

Authors:

Natalia Valencia Gonzalez (1), Vanesa Isaac (2), Miriam Uzuriaga Martin (3), Santiago Blanco Rey (4)

1. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
2. emergency care, SUMMA 112, Madrid, Spain
3. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
4. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain

Keywords: #Anafilaxys #Summa 112 #Tranexamic acid

Abstract :

We are summed to SUMMA 112 for a 38-year-old woman for an allergic condition. On our arrival, a patient with blood pressure levels of 85/50 mmHg, Fc 127 bpm, dyspnoea with circulation, saturation at 80%, purpling rash on palpation. She reports having inadvertently eaten almonds as she is allergic to them. On auscultation, wheezing and snoring scattered in both hemitororaxes. Before this situation, following the protocol of the GALAXIA guideline, it was said to administer epinephrine 0.3-0.5 ml im, it was channeled peripherally and 80 mg of methylprednisolone was administered (the patient weighed 75 kg), 10 ml of polaramine and ventolin nebulized and atrovent. The patient improves but not everything expected, so the nebulization must be administered again on 2 occasions and due to the tendency to hypotension, the epinephrine is repeated on 2 subsequent occasions. Following protocol, it was finally decided, after not arriving at the destination hospital (40 minutes from home to the reference hospital), to administer tranexamic acid 1g in 10 minutes, finally transferring the hemodynamically stable patient.

Anaphylaxis is a life-threatening, underdiagnosed clinical picture. The most common triggering agents are drugs and food. The correct immediate treatment with adrenaline, although it is known that it is clearly indicated, is not carried out with the desired frequency, mainly due to the high number of anaphylaxis cases that are not diagnosed as such. In patients who have already suffered a first episode of anaphylaxis, subsequent etiological diagnosis is crucial to avoid the appearance of new episodes.

Tranexamic acid (TXA) is a medicine used as a tool for the prophylaxis and management of major bleeding; After the publication of the CRASH 2 study, it gained significant space in the management of surgery with major bleeding in the perioperative period.

This antifibrinolytic agent is also a potent inhibitor of the complement system and its use for the prevention and treatment of anaphylactic or anaphylactoid shock is discussed.

Side effects such as elevated CPK and aldolase, muscle cramps, dizziness or postural hypotension, retinal abnormalities or thrombosis should be monitored. They are of choice in children and AEA due to C1 inhibitor deficiency.

#23237 : Parental administration of analgesia to children attending the emergency department with acutely painful conditions

Authors:

Tessa Daly (1), Rory O' Brien (2), Adrian Murphy (2)

1. School of Medicine, University College Cork, Cork, Ireland
2. Department of Emergency Medicine, Cork University Hospital, Cork, Ireland

Keywords: pre-hospital, pain relief, parent, children

Abstract :

Background: Pain is the most common symptom in the emergency setting however acute pain management in children is often sub-optimal in the pre-hospital and emergency environment. There is a paucity in the research on parental administration of analgesia to children prior to arrival at the emergency department with the majority of the literature focusing on pain management by emergency medical services. Acute paediatric pain management has not commanded the same level of research compared to the adult population and recent studies have highlighted the need for high-level evidence and further research. The aim of this study was to describe the prevalence of pre-hospital analgesic administration by parents/guardians of children.

Methods: A prospective cross-sectional study was conducted between May 2019 and September 2019 in the EDs of Cork University Hospital (CUH) and Mercy University Hospital (MUH). Systemic sampling was used to recruit a defined proportion of consecutively approached parents of children who met the inclusion criteria. The inclusion criteria was children between the ages of 6 months - 16 years, who were self-referred to the ED with an acutely painful condition. They were approached following ED triage and asked to complete an anonymous questionnaire using an electronic table provided by the research team. Data was collected on patient demographics (age/gender), cause of pain (i.e. injury/illness), pain score on ED arrival, analgesia administration prior to ED arrival, type and dose of analgesia administered, reasons why analgesia was not administered. Data was then exported to Microsoft Excel and analysed using SPSS software.

Results: Overall 400 parents/guardians completed this questionnaire. 189/400 (47%) of children received analgesia from their parents/guardians prior to arrival at the ED. Factors which were independently associated with increased parental administration of pain relief were having a pain score ≥ 5 (53.4% vs 29%, $p < 0.001$), children with siblings (49.7% vs 35.3%, $p = 0.03$) and presenting No correlation was seen between administration of pain relief and age ($p = 0.804$), gender ($p = 0.114$), cause of pain ($p = 0.079$) or site of pain ($p = 0.098$). Analgesics administered included Calpol[®] (44%), Nurofen[®] (30%), Paracetamol (14%), Ibuprofen (8%). Overall, 211/400 (53%) children received no analgesia before attending ED. Reasons for parents not administering pain relief included: 30% (62/211) of parents did not think the child needed it, 19% (39/211) did not give pain relief because the accident did not happen at home, 16% (34/211) did not want to mask the presence of the pain, 9% (20/211) believed the hospital should give the medications, and 9% (18/211) were afraid it would be wrong/harmful.

Conclusions: This study has demonstrated that over 50% of children presenting to the ED, with acutely painful conditions, did not receive adequate or timely pain relief pre-ED arrival, causing avoidable suffering. Children were more likely to receive pain relief from parents/guardians if they: have siblings, had a pain score > 5 , present to ED < 48 hours after the onset of pain. Parental misconceptions surrounding pain management are a major barrier to them administering pain relief. Further education is required to dispel these myths surrounding analgesia and improve the care to this population.

Trial Registration / Funding Information (only) :

Trial Registration: This study was not registered as it was not an interventional trial. **Funding:** This study received €78 in funding through the Medical Research Supplement Award from the University College Cork School of Medicine Research and Postgraduate Affairs Committee (RPAC) for access to Survey Monkey software. **Ethical Approval and Informed Consent:** This study received ethical approval from the Clinical Research Ethics Committee of Cork Teaching Hospitals (CREC) on 1st February 2019. Prior to participating in this study parents were given a participant information letter explaining the purpose of the study and their role in it. Due to the benign nature of this study written consent was not required and parents were asked to verbally consent to study participation. No patient identifiers were collected as part of this study. This study was conducted in compliance with GDPR.

#23238 : Massive killer bees attack in French Guyana, toxic reaction or anaphylaxy? A kinetic question for first primary care physician

Authors:

Alexis Fremery (1), Swann Geoffroy (2), Guillaume Quezel (2), Jean Pujol (2), Nathalie André (3)

1. Emergency Room, Centre Hospitalier de Cayenne, Cayenne, France
2. Emergency Room, Centre Hospitalier de Cayenne, cayenne, France
3. Service de Santé des Armées, CMIA Cayenne, cayenne, France

Keywords: Bees attack, toxic reaction, anaphylaxy, Envenomation

Abstract :

On December 5, 2019, in Cayenne, 18 gendarmes in intervention were attacked by a swarm of Africanized killer bees. Ten victims had a massive envenomation (between 75 and 650 bites) and were treated in absolute emergency for an anaphylactoid reaction classified stage 4 according to the classification of Müller and grade 3 according to the classification of Rind and Messmer. The interest of this case study is the extremely fast kinetics of medical treatment with Adrenaline IM, vascular filling, high flow oxygen therapy, corticosteroid therapy and antihistamine IV. This reduced the period of initial anaphylactoid shock, limits complications related to massive envenomation and allows for rapid discharge from the hospital in less than 48 hours without the need for mechanical ventilatory assistance or hemodialysis. The threat of Africanized killer bees is present in Guyana. Their massive attack has a high potential for morbidity and mortality. Primary, secondary and tertiary prevention tools must be accessible and known by primary healthcare professionals and the population.

#23239 : Not all chest pains are Troponitis

Authors:

Shankar Murthy (1), Asim Ijaz (1)

1. University Hospitals of Morecambe Bay NHS Foundation Trust, Royal Lancaster Infirmary, Lancaster, United Kingdom

Keywords: WPW syndrome

Abstract :**Brief Clinical History**

A 19-year-old patient comes with a history of chest pain lasting for thirty minutes and subsided as he checked into the triage. Pain is on the left side of the chest dull and pulsating in character, non-radiating. Pain is 3/10, with no aggravating or alleviating factors. No palpitations; no recent history of chest infection, no cough, no SOB, no syncope, no other associated symptoms.

Vitals HR-82/min; RR-16; BP-134/80 mmHg; SPO2 -100%; T-36.4

O/E

HEENT-NAD

Chest - air entry clear, no wheeze and no crepts

CVS-S1S2, Distal pulses- radial, dorsalis pedis, tibialis posterior, femoral bilaterally equal, no femoral-radial deficit,

Abdomen- soft non tender

CNS - GCS 15/15 no neuro deficit

Misleading elements/ Helpful details.

He had previous multiple episodes of chest pain and palpitations since childhood which was investigated and was inconclusive. This time pain lasted for thirty minutes, he is now pain-free. He was previously seen twice in this hospital and discharged after going through the usual chest pain pathway- blood investigations - Trop I - negative, ECG was normal in all the previous presentations except in the last admission which showed Shortening of PR interval and inverted P waves in Inferior lead II, III, aVF.(see picture 1). He was asymptomatic and as a low-risk category discharged home with a diagnosis of musculoskeletal pain follow up in Cardiology on an outpatient basis.

Differential and actual diagnosis

On present admission, the patient had similar symptoms and EKG- (picture 2)

PR interval <120ms; Delta wave - slurring slow rise of initial a portion of the QRS in I, II, V1, V2, V3, V4, V5; QRS prolongation >110ms, ST-Segment and T wave discordant changes - i.e. in the opposite direction to the major component of the QRS complex; A pseudo-infarction pattern can be seen in up to 70% of patients or as a prominent R wave in V1-3 (mimicking posterior infarction).

The patient had several EKGs while in the hospital (pictures 3 and 4) which shows normal and WPW syndrome. He was diagnosed as Intermittent WPW with Left free wall/posterior pathway. He was seen by cardiologists who started him on Bisoprolol 2.5 mg PO OD and Flecainide 50 mg BD, the patient eventually underwent uneventful successful ablation of his accessory pathway.

Educational and/or clinical relevance

Young adults with chest pain are infrequent attendees in the cohort of patients with chest pain presenting to the ED. These patients go through the usual chest pain pathway looking at biomarkers– Troponin, EKG; discharged home if the results are negative. Careful history taking and looking out for past medical records, in this case, EKG from a previous visit with shortened PR interval turned out to be crucial in getting a definitive diagnosis of Intermittent WPW syndrome.

Attachment: WPW syndrome.docx

#23240 : Let's get a drink

Authors:

Octav CRISTIU (1), Michael Quirke (2)

1. EMERGENCY MEDICINE, EMERGENCY MEDICINE, DUBLIN, Ireland
2. EMERGENCY MEDICINE, BEAUMONT HOSPITAL RCSI, Dublin, Ireland

Keywords: Alcohol, road traffic accidents, deaths,

Abstract :

Introduction : we looked at all major trauma presenting to our hospital in the last 10 years. Data was collected from the TARN base. We wanted to see the incidence of alcohol involved in the mechanism of injury and other recreational drug use

Methods : We retrospectively reviewed 1151 patients' charts and injuries we looked at the mechanism of injury the injury sustained and the alcohol levels and if it was documented in the notes. We also looked at how many deaths were documented and from those how many died in the department. We also looked at the time of presentation and the days spent in the hospital

Results : 35.2 percent from the conscious patients stated they have an alcohol problem, 78% of all presentations had documented evidence of alcohol use at time of injury, 67% were male and 62.5% had a head injury with subdural/extradural haematoma/haemorrhagic contusion most frequent injury, 15% had a long bone fracture that required intervention and 25-31% were transferred to other services (pelvis fracture/ spinal fractures) Age 17-88 median 46.2 time of presentation 4-11 19-23. 77 deaths occurred with 70 had alcohol involved. Longest inpatient was 394 days ICU longest stay 29 days.

Conclusion : alcohol is a major public health problem and more campaigns and information should be done to drink responsibly and not to drive when alcohol is involved.

#23241 : Prehospital emergency care: assistance of patients with acute coronary syndrome

Authors:

Pedro Alexandre Ribeiro (1), Sara Faria (2), Paulo Alexandre Ferreira (3), Ana Pais (4)

1. Pre-Hospital Emergency Care, Hospital Distrital da Figueira da Foz, Figueira da Foz, Portugal
2. Serviço de Medicina, Hospital Distrital da Figueira da Foz, Coimbra, Portugal
3. , Escola Superior de Enfermagem de Coimbra, Coimbra, Portugal
4. Serviço de Cardiologia , Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal

Keywords: Emergency Medical Services; Cardiovascular Diseases; Acute Coronary Syndrome

Abstract :

Background: Acute Coronary Syndrome (ACS) is characterized by an ischemic injury to the myocardium and is responsible for worldwide's millions of deaths every year. The time of response and the treatment institution after the first medical contact (FMC) can save lives and minimize myocardial damage by an early transport to a specialized facility. Thus, a correct prehospital (PH) approach is of major importance for minimizing associated complications of myocardial damage and for reducing morbidity/mortality.

We carried out a study where we analyzed the time that elapses from the first request for help of the person with chest pain to the therapeutics institution after the FMC and the transport time to the hospital unit (HU) by the Emergency Medical and Resuscitation Vehicle (EMRV) of a small town in Portugal.

Methods: We developed a retrospective, descriptive and correlational study that included the number of chest pain activations, from November 2017 to December 2018. This is an accidental non-probabilistic sample. Inclusion criteria for the study were age over 18 years and activation due to chest pain. Our sample consisted of 190 activations. The variables under study included sociodemographic characteristics (gender, age and demographic region), cardiovascular risk factors, time elapsing from activation to arrival, FMC, diagnosis of ACS, beginning of treatment and conduction to the HU. Data analysis were obtained by descriptive and analytical statistics using the program SPSS 23.0 (Statistical Package for the Social Sciences).

Results: The patients of our sample ($n=190$) had an average age of 67.42 years (± 14.70 [21;95]), with a predominance of male individuals ($n=103$; 54,2%). 13.7% were diagnosed with ACS – 61.5% of this were ST elevation ACS (STEACS) and 38.5% were non-ST elevation ACS (NSTEMACS). From activation to the arrival of EMRV, there's an average time of 9 minutes (± 0.04). From the FMC, hemodynamic and electrocardiographic monitoring, and the start of treatment takes about 4 minutes (± 0.06). After stabilizing the victim until arriving at the HU, the elapsed time is about 46 minutes (± 0.10). In patients with ACS, the assistance times by the PH team are not influenced by sex and age ($r>0,05$). However, there is a statistically significant relationship ($p=0,015$) between the demographic region and time of arrival - greater distance, greater time elapsed. The type of ACS has no influence on the assistance time and transport to the HU ($p=0,751$), as well as the number of cardiovascular risk factors has no predictive power in relation to the type of ACS diagnosed in the PH ($p=0,457$).

Discussion & Conclusions: The most current literature recommends a quick intervention in the approach of patients with ACS, particularly STEACS, in whom percutaneous coronary intervention (PCI) should be offered no later than 120 minutes after the FMC. The analyzed times of our team are in line with what is advocated, because time is saving myocardium. It's noteworthy that the HU with PCI is 40 km away from our geographical area of intervention, and that the assistance times did not worsen with the decrease in severity/type of ACS.

#23242 : An important antidote: Methylene blue

Authors:

Mehmet Unaldi (1), Onur Karakayali (1), Emrah Celik (1), Nurcihan Ülkü Aytaş (1), Ozgur Sogut (2)

1. Department of Emergency Medicine, Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey

2. Department of Emergency Medicine, Haseki Training and Research Hospital, Istanbul, Turkey

Keywords: intoxication, methylene blue, sodium nitrite

Abstract :**Introduction**

Introduction:Sodium nitrite may cause methemoglobin formation resulting indiminished oxygen-carrying capacity. Serious adverse effects may occur at doses less than twice the recommended therapeutic dose. In this study, a case is presented with methemoglobinemia developed secondary to overdose sodium nitrite intake suicidally, and the importance of the treatment of this rarely seen intoxication is emphasized.

Case report: A 23-year-old male patient presented to the emergency department (ED) with complaint of lassitude, prostration, shivering, shortness of breath, and cyanosis of lips. He had no systemic disease.The general health state of the patient was deteriorated. In inspection he revealed tachypneic pulse (120-130 beats/min) and cyanotic lips. The patient's blood pressure (90/60 mm-Hg), respiratory rate (30/min), pulse rate (135 bpm-sinus rhythm), body temperature (37,1 °C), and oxygen saturation (SPO₂:65%) were measured. His pulmonary and cardiovascular examination findings were normal. Complete blood count (CBC) and blood chemistry did not reveal any abnormal results. In similar fashion no cardiovascular or respiratory abnormality that could explain his real clinical health state was defined. With arterial blood gas (ABG) pH; 7,32, PCO₂;12,6, PO₂;86,3, HCO₃;20, lactate;1,49 mmol/L, and methemoglobin; 78,4% he was prediagnosed as methemoglobinemia. Although the initiation of a saline infusion (100 ml/hour) and oxygen delivery with a mask at a rate of 10 L/min, cyanosis persisted. His treatment was continued with 10 mg 10% methylene blue and then his methemoglobin level dropped to 0.6%, and his clinical findings ameliorated. As he was stabilized his detailed anamnesis was obtained by him. In history it was learned he was chemist and he had intaked sodium nitrite with suicidal intention. Priorly he had attempted twice. He was admitted to the intensive care unit (ICU) for advanced following.

Conclusion:Methemoglobinemia can thrive under the influence of hereditary and acquired factors. A lot of drugs and chemical drugs and substances are known to cause acquired methemolobineimia.Sodium nitrite is amongst these methemoglobinemia-induced drugs.

Attachment: methylene blue.docx

#23243 : Aspiration while diving, plausible ?**Authors:**

Shankar Murthy (1), Asim Ijaz (1)

1. University Hospitals of Morecambe Bay NHS Foundation Trust, Royal Lancaster Infirmary, Lancaster, United Kingdom

Abstract :

The patient had an incident whilst diving at a depth of 8 meters, the previous day before presenting to this hospital. She is thought to have aspirated during an uncontrolled ascent, but the patient was not sure if this happened. She recovered following this incident and managed to go diving the day she presented to our ED. However the same event occurred and she became more ill, coughing up frothy pink sputum and was brought into the hospital. On arrival, she was severely hypoxic with a SpO₂ of 80% on 15L.

On examination

- A- Mallampati 1, No loose teeth, A few filling on the molars
- B- Bilateral bibasilar crackles, dyspnoeic, SpO₂ 80 on 15 lit ABG Po₂ 5.0 kpa on 15 lit O₂
- C- C-unsupported, stable BP 152 / 73 MAP 98 HR 74 warm and well-perfused peripheries
- D- GCS 15/15.

Investigation

ABG ph 7.38, pO₂- 5.0kpa , PCO₂- 5.8 kPa on 100 % O₂,

X-ray chest - bibasilar opacities (picture 1)

FBC WBC - 15.1, Neutrophils 13.4

UE- Urea 4.3 mmol/l, Creatinine 83 mmol/l

CRP - 110

The patient was started on CPAP 10 mmHg at 40 % O₂ which was eventually titrated to 28 %. She was subsequently transferred to ICU and spent 4 days on with high flow oxygen.

The following differentials were considered:

Immersion pulmonary edema

Aspiration Pneumonitis

She had a repeat X-ray after two days in the ICU (picture 2)

Once she was weaned off her high flow she was transferred to the respiratory ward.

The patient's symptoms have greatly improved she was off oxygen and was medically fit for discharge. The patient was, informed that the likely cause of her hypoxia was immersion pulmonary edema and the likelihood of aspiration was very low as the patient herself is not sure about the same.

We need to rule out cardiac complications. As she is from out of the area we have requested that she go to see her GP to arrange a cardio review to have both an Echocardiogram and myocardial perfusion scan.

She was advised that she does not do any diving until she has been given clearance by a diving specialist who has knowledge of potential cardiac risks. She has her own medications - ferrous sulfate and HRT with her and we advised her to continue taking these medications.

#23244 : Mild head trauma in the emergency departement : What about application for guidelines?**Authors:**

nadia zaouak (1), HANA HEDHLI (2), safia othmani (1), Aymen Zoubli (3), Amel Maaref (4), Asma Jendoubi (4), Rym Hamed (5)

1. Service des urgences, EPS Charles Nicolle, Tunis, Tunisia
2. emergency department, EPS Charles Nicolle, Tunis, Tunisia
3. emergency departement Cahrles Nicolle, Charles Nicolle, Tunis, Tunisia
4. service des urgences, Hopital charles Nicolle tunis, tunisie, Tunis, Tunisia
5. , Charles Nicolle hospital, Tunis, Tunisia

Keywords: Mid traumatic brain injury, emergency, computed tomography

Abstract :**Background :**

Traumatic brain injury is the most common reason for consulting in Emergency Departement (ED). Several Guidelines and Computed Tomgraphy (CT) Criteria have been developped to help physician for decision making. Recently, Scandinavian Guidelines (SG) for Initial Management of Minimal, Mild TBI guided the use of CT based on the clinical risk factors for acute traumatic intracranial haemorrhage

Goal: the goal of the study is to evalute if Scandinavian guidelines were applied in hopes of reducing unnecessary CT imaging.

Methods :

It was a retrospective observational study conducted over a period of to years (October 2016-October 2018) in the ED. Consecutive adult patients presented in ED with TBI were eligible for inclusion. mild TBI were categorized in low, medium, and high risk groups depending on certain risk factors.

Results:

483 patients were included. The mean age was 42 ± 19 years. The sex-ratio was 3.3. circumstance of the accident were (%) : traffic accident (62), Falls (15), violence (14), work accident (9). After the initial assessment and risk factor analysis for intracranial injury, 28% patients were minimal mild traumatic brain injuries, 49% low risk, 4% medium and19% high risk.

443 (94%) underwent a head CT scan. Among them 141(32%) showed at least one type of intracranial hemorrhage.

Conclusion:

Our retrospective study indicates that emergency trainer not applied recommandation for management of TBI.

#23245 : The dramatic final of burn: Multiple trauma

Authors:

Mehmet Unaldi (1), Emrah Celik (1), Onur Karakayali (1), Ozgur Sogut (2), Hatice Eryigit Unaldi (3)

1. Department of Emergency Medicine, Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey

2. Department of Emergency Medicine, Haseki Training and Research Hospital, Istanbul, Turkey

3. Department of Thorax Surgery, Kocaeli Darica Farabi Training and Research Hospital, Kocaeli, Turkey

Keywords: burn, injury, trauma

Abstract :

Introduction: Burn is a form of injury caused by a heat source electricity, cold, chemicals, gases, and radiation (including the sun). Generally, burns of > 10% of the body surface can be significant burns. Percentage alone is not enough, depth of the burn and burn of special areas are also important, and the burns should also be evaluated according to these features. Although burn is a trauma alone, trauma of other system can rarely be accompanied. In this study we want to present a case of exposure to thermal burn with multiple trauma, including head, thorax and vertebral injury.

Case report: A 60-year-old female patient who was exposed to thermal burns and escaped from fire caused by electric stove at home and then falling from high altitude was brought to our emergency department by emergency service ambulance. The general situation of her was poor, GCS(Glasgow Coma Scale) E4V2M5 was 11. The patient with more than 50% second degree burns including face, trunk and extremities was intubated for respiratory safety. Radiological imaging (CT) revealed bilateral subdural hematoma, subarachnoid hemorrhage, L3-L4 and T11 vertebral fractures and rib fractures. The patient was rapidly resuscitated in accordance with advanced trauma life support(ATLS) and transferred to the intensive care unit. She died 8 hours after hospitalization.

Conclusion: Burn should always be considered a trauma, sometimes other system injuries may accompany the burn. In the management of the burn, the priority is to evaluate and support the vital functions of the patient. Then, the patient should be evaluated systematically in detail, additional problems and burns severity should be determined.

Attachment: burn.docx

#23246 : Which Emergency Department hospital-based interventions are most effective in reducing youth violence? - a systematic review**Authors:**

Julie-Ann Collins (1)

1. , , Belfast, United Kingdom

Keywords: Youth Violence

Abstract :**Background**

Youth violence is a growing global public health concern with long-lasting negative health and social consequences for young people, their families and communities. The World Health Organisation states “violence is predictable, therefore preventable” and violence prevention supports basic human rights. Globally, homicide is the 4th leading cause of death in 10-29 year olds with 200,000 reported deaths per year, after Road Traffic Collisions, HIV/AIDS and Self-harm and youth violence accounts for 43% of all homicides worldwide. Youth violence prevention programmes can be classified as; primary, secondary or tertiary, according to the timing of the prevention approach. Hospital-based violence intervention programmes (HVIPs) offer a potential opportunity to target particular at-risk groups of youth with secondary prevention measures to prevent further violence. The “teachable moment” in ED may provide an opportunity to intervene in secondary youth violence prevention but a recent comprehensive review of ED-specific youth violence prevention interventions is lacking.

Methods

The purpose of this systematic review was to determine the effectiveness of Emergency department-based interventions in reducing youth violence in young people with experience of violence. Prospective Randomised Control Trials (RCTs) evaluating an intervention targeting young people treated in a high-income setting Emergency Department for violent intentional injuries or with a history of violence compared with no or other intervention, published in the English language before 31st December 2018, were included in this study. The extended WHO age range for young people, 10-24 years was chosen. Primary outcome measure was to determine if the ED- based intervention results in prevention of further youth violence by reduction in re-injuries/death relating to youth violence, reported by self (victims/perpetrators), hospital or police records. Medline, Embase and the Cochrane Database of Systematic Reviews databases were searched and a handsearch of researchers in the field of youth violence was completed. Given the anticipated heterogeneity in terms of demographics, methods and outcome measures an in-depth qualitative analysis of each study was performed.

Results/Discussion

1134 abstracts were screened. Ten studies were eligible for full text review. Four RCT studies met the eligibility criteria and were analysed in-depth while a further four hospital but not ED-based studies were considered. Two studies (Zun 2006 and Cheng/Wright 2008) evaluated case management interventions. The other two studies (Cheng/ Haynie 2008 and Walton 2010) evaluated a peer mentorship programme and brief interventions (therapist and computer delivered). Three studies (Zun 2006, Cheng/Haynie 2009 and Walton 2010) found statistically significant reduction in repeat injury, conflict avoidance, future misdemeanours, peer aggression, peer violence and violence consequences with the intervention. One study (Cheng/Wright 2008) did not find any statistically significant reduction in risk factors for repeat violence with case management intervention. Risk of bias was graded as moderate.

Conclusion

Case management, peer mentorship and therapist delivered brief intervention may offer some benefit in reducing youth violence however given the paucity of research in this area there is a need for further robust studies to assess whether these findings are sustainable and applicable across different healthcare settings.

#23247 : THE ADMISSION AND FOLLOW-UP OF THE PEOPLE IN AND AROUND THE SCENE OF THE PATIENT WHO DIED AFTER SUICIDAL CYANIDE INTAKE, THE EXPERIENCE OF TERTIARY LEVEL HOSPITAL.

Authors:

volkan ülker (1), Volkan Ülker (2), fatih güneysu (1), ensar durmuş (1)

1. Clinics of Emergency Medicine, Sakarya University Education and Research Hospital, Sakarya, Turkey, sakarya, Turkey
2. Department of Disaster Medicine, TC Bezmialem Foundation University, Institute of Health Sciences, Istanbul, Turkey

Keywords: Cyanide poisoning, Education, Lactic acidosis, Personnel Protective Equipments, Suicide

Abstract :

IntroductionCyanide poisoning may cause severe medical complications and a high mortality rate, whether caused by ingestion or inhalation. The definitive diagnosis of cyanide poisoning is made by measuring the serum cyanide level. Nevertheless, the serum cyanide level is measured in high level laboratories. Suicide is in the top ten causes of death in all age groups. There are many methods of committing suicide like cyanid ingestion. it is not easy for the general population to obtain sodium or potassium cyanide. Consequently, acute cyanide poisoning is difficult to identify in the emergency department (ED). The detection of metabolic acidosis often leads to an accurate and rapid differential diagnosis. In addition, there is unexplained acute confusion, respiratory failure, seizures and even coma, the only clue available in most emergency settings is the presence of high anion gap metabolic acidosis combined with a high lactate level. We herein present the management of admitted people from the scene and around the area of died victim because of ingested cyanide salts.

MethodsThere are forty patients were admitted to our hospital from the scene and around the area of the died victim due to ingested cyanide salts. A student from faculty of chemistry ingested cyanide salts with orange juice. After calling of Emergency Medical Services medical staff diagnosed death of that victim. Within history of the victim, he has psychological problems and used some drugs. In the last social media note, he wrote the suicide attempt and warned his parents. After getting odor of almond kernel, public prosecutor and EMS staff suspected cyanide poisoning and called Disaster and Emergency operation center for detection of chemicals. After analysis of surroundings chemicals, there was elevated levels of cyanide was noted in the area and lips of the victim. Within law enforcement officers, police officers and EMS staff were directed to our emergency services (ES) without taking ant antidotes. In our ES, we firstly take precautions for decontamination of staff. And then we evaluated their blood tests that including blood gas analysis and electrolytes. After admission of law officers and EMS staff, the neighbors and relatives of the victim admitted to ES. There were any abnormal lactate levels and electrolyte abnormalities of admitted forty patients. They were discharged after six hours follow-up.

ResultsThe mean age of the patients was 34.0 ± 11.2 years 72.5% of the patients were male. The number of law enforcement officers were five, EMS staff was nine. The rest of twenty-six patients from relatives and neighbors. The half of admitted patients were analyzed in second hour of cyanide poison detection. None of them had lactic acidosis that above 4 mmol/L limits. Their sodium, potassium and bicarbonate levels were in normal limits. All of them were discharge within

normal vital parameters.

Conclusion Cyanide intoxication can be seen in such suicide attempts. Obtaining of cyanide salts or tablets must be forbidden according to law rules. The intoxicated patient can be follow-up with lactic acidosis management and antidotes of cyanide. On the other hand, Law enforcement and EMS staff can be use personnel protective equipments in suspected cases. The society can be educated in such intoxication symptoms.

#23248 : Injury Characteristics associated with Electric Personal Mobility Devices: A Nationwide Cohort Study in Korea

Authors:

Kim Maro (1), Suh Dongbum (2), Lee Jin Hee (1), Kwon Hyuksool (1), Choi Yoo Jin (3), Jeong Joo (1), Kim Sola (4), Hwang Soyun (2), Jo You Hwan (1)

1. , Seoul National University Bundang Hospital, Seongnam, Korea, Republic of

2. , Seoul National University Hospital, Seoul, Korea, Republic of

3. , Ajou University Hospital, Suwon, Korea, Republic of

4. , Hallym University Dongtan Sacred Heart Hospital, Hwaseong, Korea, Republic of

Keywords: Descriptive Epidemiology; Risk Factor Research; Alcohol; Traumatic Brain Injury

Abstract :

Background: This study aimed to investigate the characteristics of electric motorized personal mobility devices (ePMDs)-related injuries and their associated factors.

Methods: This cross-sectional study was conducted using data collected from the emergency departments between January 2014 and December 2017 in the Emergency Department-based Injury In-depth Surveillance database. All patients who were injured while operating an ePMD were eligible. The primary outcome was the rate of severe injury. The secondary outcomes were the rates of acute traumatic brain injury and ICU admission. We calculated the adjusted odds ratios (AOR) of outcomes associated with ePMD-related injuries.

Results: Of 1,107,966 total patients injured, 399 (0.04%) were eligible. The median age was 29 years (interquartile range, 18-39 years), and men (66.2%) were more commonly injured. The majority of injuries occurred in the street (27.8%), in alleys (22.3%), and on public property (21.6%). Operation of ePMDs while intoxicated was associated with higher injury severity (AOR: 4.57 (1.84-11.34)). Moreover, patients aged >50 years and those with injuries sustained in roads or streets were more likely to have traumatic brain injuries (AOR: 4.36 (1.62-11.77) for age >50 years and 2.03 (1.08-3.84) for road and street injuries). There were no factors significantly associated with ICU admission after ePMD-related injuries.

Conclusions: Inebriation was related to severe injury and the ePMD-related injuries in roads and streets are associated with traumatic brain injury. Revised safety regulations of ePMDs should be implemented to prevent significant injuries due to ePMD-related accidents.

#23250 : Machine learning for developing a prediction model of hospital admission of ED patients: hype or hope?**Authors:**

Anne De Hond (1), Laurens Schinkelshoek (1), Menno Gaakeer (2), Ewoud Ter Avest (3), Ozcan Sir (4), Heleen Lameijer (5), Roger Hessels (6), Resi Reijnen (7), Evert De Jonge (8), Ewout Steyerberg (9), Christian Nickel (10), Bas De Groot (11)

1. Department of Information Technology and Digital Innovation, Leiden University Medical Centre, Leiden, The Netherlands
2. Department of Emergency Medicine, Adrz Hospital, Goes, The Netherlands
3. Department of Emergency Medicine, University Medical Centre Groningen, Groningen, The Netherlands
4. Department of Emergency Medicine, Radboud University Medical Centre, Nijmegen, The Netherlands
5. Department of Emergency Medicine, Medical Centre Leeuwarden, Leeuwarden, The Netherlands
6. Department of Emergency Medicine, Elisabeth-TweeSteden Hospital, Tilburg, The Netherlands
7. Department of Emergency Medicine, Haaglanden Medical Centre, The Hague, The Netherlands
8. Department of Intensive Care Medicine, Leiden University Medical Centre, Leiden, The Netherlands
9. Department of Biomedical Data Sciences, Leiden University Medical Centre, Leiden, The Netherlands
10. Department of Emergency Medicine, University Hospital Basel, Basel, Switzerland
11. Department of Emergency Medicine, Leiden University Medical Centre, Leiden, The Netherlands

Keywords: emergency department, overcrowding, hospital admission, machine learning, deep learning

Abstract :**Background**

Early insight in which emergency department (ED) patients need hospitalization could contribute to reduction of ED lengths of stay and thereby ED overcrowding with all its negative consequences.

Aim

We aimed to develop prognostic models for prediction of hospitalization of ED patients with machine learning and conventional regression techniques.

Methods

Observational multi-centre cohort study using the Netherlands Emergency department Evaluation Database (NEED) in which all consecutive ED-patients of three hospitals were included. We assessed whether machine learning techniques were better than conventional multivariable logistic regression analysis by comparison of the discriminative performance (Area Under the Curve (AUC)) of the prediction models. Three machine learning models were developed: random forest (RF), deep neural net (DNN) and gradient boosted decision tree (GBDT). Demographics, time of day, presenting complaints, disease severity (triage category, arrival mode, referral status, vital signs, blood tests), administration of ECG and other scans, treating specialty and ED location were used as covariates in the modelling.

Results

We included 139,557 ED patients of whom 56,630 (41%) were hospitalized. We split the data in a train and test set (2/3 train, 1/3 test). The AUC of the conventional multivariable logistic regression model was 0.833 (95%-CI: 0.828-0.837), slightly higher than that of the RF 0.828 (0.823-0.833). The remaining machine learning models had the highest AUC: GBDT 0.843 (0.838-0.847) and DNN 0.861 (0.858-0.864) respectively.

Conclusion

In our sample of ED patients, the DNN performed best compared with the conventional logistic regression and tree-based machine learning methods. However, differences between models were relatively small. Future studies should point out whether larger sample sizes will improve the discriminative performance of the machine learning techniques and which model could best be implemented in clinical practice.

Trial Registration / Funding Information (only) :

SGOfonds (Spoedeisende Geneeskunde Onderzoeks fonds)

#23251 : Rapid responses towards the COVID-19 pandemic in the emergency department (ED) of Linkou Medical Center, Chang Gung Memorial Hospital, Taiwan- one of the largest EDs in the world

Authors:

Seak Chen-June (1), Liu Ya-Tung (1), Goh Zhong Ning Leonard (1), Wang Feng-Lin (1), Chan Yi-Ling (1), Li Chih-Huang (1), Chen Hsien-Yi (1), Lin Chih-Chuan (1), Seak Chen-Ken (1), Seak Joanna Chen-Yeen (1), Ng Chip-Jin (1), Stratification to Prevent Overcrowding Taskforce investigators (1)

1. Department of Emergency Medicine, Linkou Chang Gung Medical Center, Taoyuan, Taiwan, China

Keywords: Coronavirus Disease 2019 (COVID-19), emergency department (ED), Chang Gung Memorial Hospital (CGMH), severe acute respiratory syndrome (SARS)

Abstract :

As one of the largest hospitals in the world, Linkou Chang Gung Memorial Hospital, Taiwan joined in immediately as the frontline hospital to screen and treat suspects with Coronavirus Disease 2019 (COVID-19) infection since 20th January 2020. We aim to report our systemic approach in emergency department (ED) which had led to zero number of infected ED healthcare workers in this COVID-19 pandemic by established a clear and feasible flow chart with route planning, strict regulation in manpower and medical supplies, and minimized risk of infection during the course of treatment. Since SARS period, our meticulous planning and fast responding measures coupled with a network of well-trained ED healthcare workers were successful in recognizing and controlling the spread of the pandemic in ED. Our experience may serve as a guiding model to enable EDs around the world in successfully managing challenges brought by the COVID-19 epidemic.

Trial Registration / Funding Information (only) :

This study was supported by Chang Gung Memorial Hospital in Taiwan [CORPG3H0231, CORPG3H0191, CPRPG3D0012, and CMRPG3J1721]. The funder had no role in design of the study and collection, analysis, interpretation of data, and in writing the manuscript.

#23254 : Design and Validation of a Hospital Emergency Department Preparedness Questionnaire for Radiation Accidents, Nuclear Accidents, and Nuclear Terrorism in Iran

Authors:

Peyravi Mahmoudreza (1), Ahmadi Marzaleh Milad (1), Rezaee Rita (2), Rezaianzadeh Abbas (1), Rakhshan Mahnaz (1), Haddadi Gholamhassan (1)

1. , shiraz university of medical sciences, Shiraz, Islamic Republic of Iran

2. , shiraz university of medical sciences, shiraz, Islamic Republic of Iran

Keywords: Preparedness; Emergency Department; Hospital; Radiation accidents; Nuclear accidents; Terrorism

Abstract :

Background and Objectives: Radiation accidents can cause numerous challenges to hospitals, the appropriate medical responses to which may save the lives of countless people. The present study aimed at the design and validation of an Emergency Department preparedness questionnaire for hospital EDs in the case of radiation accidents, nuclear accidents, and nuclear terrorism in Iran.

Materials and Methods: This multistage cross-sectional study was conducted in 2019. The questionnaire items were created with the reference to article reviews and expert judgement. The validity of the questionnaire was assessed through face, content, and construct validities. Additionally, its reliability was estimated using measures of internal consistency and stability, namely Cronbach's alpha and Intra-class Correlation Coefficient. To this end, the questionnaire was completed by the ED staff in the hospitals of Iran.

Results: The proposed 48-item questionnaire consisted of three themes: staff preparedness, staff preparedness, and structure preparedness. The face and content validities were confirmed by expert judgement. All items remained with Content Validity Ratio > 0.7 and the mean Content Validity Index = 0.891. The overall Cronbach's alpha and ICC were 0.781 and 0.709, respectively for the whole questionnaire.

Conclusion: Hospital ED preparedness in radiation and nuclear accidents requires readiness of staff, staff, and structure of the ED, the consideration of which will properly respond to radiation and nuclear accidents. Thus, upstream organizations like the Ministry of Health and the Emergency Organization should oblige hospital EDs to make themselves be more prepared by codifying certain imperative laws and policies.

Authors:

Hassan Araghizadeh (1), Ahmadi Marzaleh Milad (2), Peyravi Mahmoudreza (2), Simintaj Sharififar (3)

1. , Baghiatallah University of Medical Sciences, Tehran, Islamic Republic of Iran

2. , shiraz university of medical sciences, Shiraz, Islamic Republic of Iran

3. , AJA University of Medical Sciences, Tehran, Islamic Republic of Iran

Keywords: Coordination, Natural disaster, Military, Civilian

Abstract :

Background: We are bearing witness to the daily occurrence of natural disasters in various parts of the world. Considering the extensive presence of military forces for assistance and establishment of security in disaster-stricken regions, the importance of coordination between civil and military forces becomes clearer.

Objectives: The present study used a systematic review method to extract the factors influencing the enhancement of the military-civil forces' coordination in natural disasters in various countries around the globe.

Methods: A systematic search was made in PubMed, Cochran Library, Scopus, EMBASE, Web of Science, and ProQuest between January 1970 and October 22, 2018. The articles were selected based on keywords by the author. In the end, the factors influencing coordination were selected from the articles.

Results: After studying the titles, abstracts, and texts of all articles, 13 ones were chosen for final analysis from which 31 factors were extracted. The most frequent factors, in terms of repetition, were information management (sharing and newness), planning, unit commanding, instruction, and communication.

Conclusion: The results obtained from this systematic review provided an overview of the factors influencing civil-military forces' coordination during natural disasters. Each of the factors was envisioned as a chain loop that caused more coordination in responding to disasters. Overall, all organizations involved in disasters management should play a role in codification of crisis management policies of every country, so that the important aspects and issues can be taken into account.

#23256 : Instructional Programs Influencing the Enhancement of the Awareness and Knowledge Required by Volunteers in Disasters: A Systematic Review**Authors:**

Peyravi Mahmoudreza (1), Rezaee Rita (2), Ahmadi Marzaleh Milad (1)

1. , shiraz university of medical sciences, Shiraz, Islamic Republic of Iran

2. , shiraz university of medical sciences, shiraz, Islamic Republic of Iran

Keywords: Volunteers, Disaster, Planning, Awareness, Knowledge

Abstract :

Background and Objectives: The majority of countries around the globe are disaster-prone and volunteers have proved a pervasive and comprehensive presence in various disasters. Nonetheless, a shortage of knowledge and awareness has always been detected among volunteers. The present study aimed at determining the instructional programs required by volunteers based on the studies carried out worldwide.

Methods: A systematic search was carried out in PubMed, Cochran Library, Scopus, EMBASE, Science Direct, Web of Science, and ProQuest databases between January 1970 and end of June 2019. The articles were selected based on the keywords chosen by the author. In the end, the instructional titles required for volunteers in disasters were extracted from the articles.

Results: After studying the titles, abstracts, and complete texts of the articles, eleven articles were chosen for final analysis following which 45 instructional titles were extracted. The most frequent scales in terms of repetition were ethics, kinds of exercises, personal protection instruments, general hygiene, awareness of certain disasters, accident command system, disaster triage, and emergency planning.

Conclusion: Considering the daily increasing growth in the number of volunteers in natural and manmade disasters, governments should offer programs that can best serve the improvement of their performance. Universities and schools play determinant roles in this regard. It is hoped that the present study findings can be effective in codifying an efficient instructional program for elevating the performance of the volunteers taking part in response to disasters.

#23257 : Socioeconomic and clinical predictors of mortality in patients with acute dyspnea

Authors:

Torgny Wessman (1), Tofik Rafid (1), Ruge Thoralph (1), Melander Olle (1)

1. Department of Clinical Sciences, Lund University/Faculty of Medicine, Malmö, Sweden

Keywords: Acute dyspnea, Emergency department, Socioeconomic status, Mortality, Comorbidity, METTS,

Abstract :

Background

Factors predicting long-term prognosis in patients with acute dyspnea may guide both acute management and need of follow-up. The aim of this study was to identify socioeconomic and clinical risk factors for all-cause mortality among acute dyspnea patients admitted to the Emergency Department (ED).

Methods

We included 798 patients admitted to the ED of Skåne University Hospital (SUS) in Malmö, Sweden, with acute dyspnea as chief complaint 2013–2017. The main exposures were living in the immigrant dense urban half of Malmö (IDUD), country of birth, yearly earned income, comorbidities, smoking habits, triage priority according to Medical Emergency Triage and Treatment System (METTS) and level of dyspnea according to a modified NYHA scale. Patients were followed-up for mortality during an average follow-up time of 2.2 years. The main exposures were related to risk of all-cause-mortality using Cox proportional hazard model.

Results

During follow-up, 40% of the patients died. In models adjusted for age and sex, low yearly income, previous or ongoing smoking, certain comorbidities, high METTS priority and increasing modified NYHA class for dyspnea were all significantly associated with increased mortality risk. After adjustment for all significant exposures on top of age and sex, the lowest vs the highest quintile of income was significantly associated with mortality (HR=1.70, 95% CI 1.091–2.661; P=0.019). In addition, ongoing or previous smoking, history of heart failure, pulmonary infection, anaemia, hip fracture as well as high METTS priority and increasing dyspnea level according to modified NYHA class significantly and independently predicted mortality, whereas obesity was associated with lower mortality risk. In contrast, neither country of birth nor living in IDUD predicted mortality risk.

Conclusions

Apart from several clinical risk factors, low yearly income predicts 2-year mortality risk in patients with acute dyspnea whereas this is not the case for country of birth and living in IDUD. Our results underline the wide range of mortality risk factors in acute dyspnea patients and suggest that knowledge of patients' yearly earned income as well as some clinical features may aid in risk stratification and determination of need of follow-up, both in hospital and after discharge from the ED.

Authors:

Hossein Karimi Moonaghi (1), Mohammad Mojalli (2)

1. Professor: Evidence- Based Caring Research Center, Department of Medical Surgical Nursing, School of Nursing and Midwifery, & Department of Medical Education, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Islamic Republic of Iran
2. Assistant professor, Faculty of Nursing and Midwifery, Gonabad University of Medical Sciences, Mashhad, Islamic Republic of Iran

Keywords: Management, Coronary Artery Disease, Emergency Phase, Grounded theory, Iran

Abstract :**Background:**

Coronary Artery Disease (CAD) is one of the major causes of death. Evidence suggests that some preventive measures by patients in emergency phase can reduce the rate and risk of mortality. Thus, understanding the signs and risk factors of CAD from the patients' perspective and their ways of dealing with this disease is of vital importance.

Objectives: This qualitative study aimed to explore the Iranian patients' experiences about CAD and how they manage it in their first encounter.

Patients and Methods: This study was a grounded theory study conducted on 18 patients with CAD. The data were collected through semi-structured interviews. Initially, purposeful sampling was performed followed by maximum variety. Sampling continued until data saturation. Then, all the interviews were recorded and transcribed verbatim. After all, the data were analyzed by constant comparative analysis using MAXQUDA2010 software.

Results:

The themes manifested in this phase of disease included 1 – "Invasion of Disease" with subthemes of "warning signs" and "risk factors", 2– "Patients' Primary Challenges" with subthemes of "doubting primary diagnosis and treatment", and feeling of being different from others", 3– "Psychological Issues" with subthemes of "mental preoccupation", "fear of death and surgical intervention", "stress due to recurrence", and "anxiety and depression", 4– "Management Strategies" with subthemes of "seeking for information", "follow-up", and "control measures".

Conclusions: Based on the results, physicians and nurses should focus on empowerment of patients by facilitating this process as well as by educating them with regards to dealing with CAD. Further, it is also essential for the mass media to educate the public on how to treat patients with CAD.

Trial Registration / Funding Information (only) :

This study was the part of a research project and PhD dissertation approved and supported by the Medical University of Mashhad bearing code number 900569.

#23259 : Response Time of the Emergency Medical Service during Mass Casualty Incidents in Florida and the Efficiency of Triage: A Retrospective Study**Authors:**

Johan Heemskerk (1), Kingsley O. Abode-Iyamah (1), Alfredo Quinones-Hinojosa (2), Eric S. Weinstein (3)

1. Department of Neurosurgery, Mayo Clinic Florida, Jacksonville, USA

2. Department of Neurosurgery, Mayo Clinic Florida, Jacksonville, USA

3. Department of Emergency medicine, McLeod Clarendon Manning, Manning, USA

Keywords: Emergency Medical Service; Mass Casualty Incident; Florida; Triage; Prehospital time

Abstract :

Introduction: During mass casualty incidents (MCIs), pre-hospital providers have to make decisions under stress. Effective treatment is time-dependent and triage methods are developed to assist emergency medical service (EMS) responders in making critical decisions to improve survival and decrease morbidity. Despite frequent use of triage methods by EMS responders, the efficiency of triage on EMS MCI responses has not been extensively investigated.

Study Objective: To evaluate EMS response time during MCIs in Florida and investigate the effect of triage methods on response time.

Methods: A retrospective analysis was performed using the EMS Tracking and Reporting System (EMSTARS) database, containing data from Florida's EMS agencies. All patients involved in an MCI during 2018 were accessed, and EMS response time intervals were subsequently evaluated and compared to that of non-MCIs. Additionally, the effect of MCI triage (START/SALT) and destination triage (Field Trauma Triage Guideline; FTTG) on response time was evaluated.

Results: In 2018, 3,653,281 EMS responses were recorded in the EMSTARS database and 3,262 responses (0.09%) were recorded as MCIs. Of those, 2,180 EMS units arrived at the hospital (66.9%) for patient disposition. It was estimated that 2,236 unique MCIs occurred in Florida, with a crude incidence of 10.1 to 10.9/100,000 people. The median alarm-to-hospital time was 43.74 minutes and the median total time the EMS unit was in action was 39.75 minutes, significantly longer than for non-MCIs (39.15 min; $p < .001$, and 36.92 min; $p < .001$, respectively). On-scene time (15.80 min) and transport time (14.10 min) constituted approximately one-third of the total alarm-to-door time (43.74 min). When MCI triage was performed, this resulted in significantly shorter EMS-in-action time (38.12 vs 40.40 min; $p = 0.012$). Use of the FTTG also resulted in shorter total EMS intervals (36.67 vs 41.00 min; $p < .001$). However, when step 1 or 2 of the FTTG were positive, the patients had to be transported to the highest level of care within the trauma system for appropriate trauma care, which resulted in significantly longer transport times (43.48 vs 36.93 min; $p = 0.007$).

Conclusion: MCIs resulted in longer EMS responses than non-MCIs. Use of MCI and destination triage is associated with shorter EMS responses during MCIs. These findings suggest that EMS agencies can improve MCI response time by implementing triage methods in their MCI protocol.

Trial Registration / Funding Information (only) :

Funding: The author(s) received no specific funding for this work Medical Ethics: The EMSTARS Data Use Agreement was signed and approval of the study was given by the institutional review board of the Florida DOH. The study was performed according to the Declaration of Helsinki and amendments.

#23260 : Use of social media to advance Bolivian women in medicine

Authors:

Autumn Brogan (1), Ashley Jacobson (1), Graciela Maldonado (1)

1. Emergency Medicine, Mayo Clinic, Rochester, USA

Keywords: social media, women, healthcare

Abstract :

BACKGROUND

Gender inequality and discrimination exist around the world. In Bolivia, women continue to be slow to rise to positions of power in medicine. Social media has provided a platform by which disenfranchised groups promote one another. Facebook has been used by various female physician groups for networking and mentorship while also advertising opportunities for academic growth. In this study, we used Facebook analytics to determine if a social networking page could connect Bolivian women in medicine. This study aimed to promote women in medicine through collaboration, mentorship, and education through a social media platform.

METHOD

Women from eight emergency medicine residencies and two medical schools were invited to join a Facebook page. Analytics from the first 6 months of publication and data from an online demographic survey were reviewed.

RESULTS:

Membership increased to 219 members over 6 months. An average of 70.9 members viewed each post (range 34-150) with an average of 4.4 reactions per post (range 0-24) and 0.4 comments per post (range 0-6). 17 members (7%) provided independent posts during this time.

26 members (12%) responded to the online demographic survey. Membership consisted primarily of 20-35 year old women (92%) with less than 5 years of practice (84%). The top reason respondents joined the platform was to 1) gain medical knowledge, 2) discuss gender inequality issues, and 3) obtain information regarding career growth.

DISCUSSION:

Facebook served as a successful platform for connecting Bolivian women in medicine. Participants chose a more passive experience by viewing content, sometimes reacting to posts, and rarely posting content themselves. This may reflect a lack of safety felt by joining an online group or

could be a result of the wrong social media platform being used. Further research is needed to better assess the networking needs for Bolivian women in medicine.

Trial Registration / Funding Information (only) :

No financial disclosures.

#23263 : ASTHMATIC CRISIS IN THE EMERGENCY DEPARTMENT. DESTINATION AND TREATMENT AT DISCHARGE.

Authors:

Soledad San Román Sirvent (1), Pascual Piñera Salmerón (2), Léa Lagrange (3), Jose Antonio López López (3), Paula Eva Carter Castelló (4), Mariana Vallejo Bobbio (3), Raquel Gómez de León Zapata (3), Marta López Ibáñez (3), Sandra Gómez Velasco (3), Pablo Herrero Navarro (3), Lidia Teruel Sánchez (3)

1. Alergology, Hospital General Universitario Reina Sofía, Murcia, Spain
2. SERVICIO DE URGENCIAS, HOSPITAL GENERAL UNIVERSITARIO REINA SOFIA, MURCIA, Spain
3. SERVICIO DE URGENCIAS, Hospital General Universitario Reina Sofía, Murcia, Spain
4. Medicina Interna, Hospital General Universitario Reina Sofía, Murcia, Spain

Keywords: asthmatic crisis, treatment at discharge, Smart therapy

Abstract :

INTRODUCTION: asthma is a chronic disease with a high prevalence in which up to 50% of asthmatic patients have a poor control of their disease and poor adherence to treatment. This underlines the importance of an optimal assessment and treatment at the Emergency Services.

OBJECTIVES: in this review we will analyze the type of therapy used at discharge in patients admitted to Emergency Service for asthma attack.

MATERIAL AND METHOD: all patients who consulted for asthmatic crisis in the hospital emergency department during December of 2019 were collected through our hospital computer system.

RESULTS: among the results obtained, we found that 5,92% of the patients required hospital admission, with PULMONOLOGY being the most prevalent admission service. Regarding for the treatment, the basic treatment was modified in 67,25% of the patients, 23.83% with rescue SMART therapy, the rest exclusively with salbutamol or other combinations. 17% were subsequently referred to the specialist.

CONCLUSIONS: as we can see in this study, at discharge in the Emergency department basic treatment was modified in more than two thirds of patients. Compared to the latest clinical guidelines which recommend the use of therapy as the first option for rescue treatment versus salbutamol classic therapy, we can conclude that only a quarter of the patients treated in the Emergency receive this type of rescue therapy at discharge. It suggests that at the moment this is not the main rescue therapy prescribed by the emergency physicians of our hospital. Finally, we can conclude that the majority of patients who were attended for asthmatic exacerbation don't require referral to the specialist.

#23264 : Establishment of a smartphone palpitation ambulatory care clinic to investigate palpitations or pre-syncope using a smartphone-based event recorder.**Authors:**

Matthew Reed (1), Alexandra Muir (1), Ross Murphy (2), Valery Pollard (2), Goran Zangana (2), Sean Krupej (2), Sylvia Askham (2), Patricia Holdsworth (2), Lauren Davies (2)

1. Emergency Department, Emergency Medicine Research Group Edinburgh, Edinburgh, United Kingdom
2. Acute Medicine, NHS Lothian, Edinburgh, United Kingdom

Keywords: Ambulatory electrocardiography monitoring, Cardiac arrhythmias, Palpitations, Diagnostic tests.

Abstract :

Background: Palpitations and pre-syncope are together responsible for 300,000 annual Emergency Department (ED) attendances in the UK alone. Diagnosis of the underlying rhythm is difficult as many patients are fully recovered by the time of attendance, and examination and presenting ECG are commonly normal. Palpitations are typically intermittent, and a diagnosis can only be made through establishing a symptom-rhythm correlation.

We conducted the IPED study [1] which found that use of a smartphone-based event recorder (Kardia/AliveCor) increased the number of patients in whom an ECG was captured during symptoms over five-fold to more than 55% at 90 days. These clinically significant rhythms allowed diagnosis of the underlying cause of the patient's symptoms. It also increased the number of patients diagnosed with cardiac arrhythmia.

Aims: This study details the implementation of the Smartphone Palpitation Ambulatory Care Clinic (SPACC) launched after publication of IPED and aimed to establish whether appropriate patients are being referred, and whether cardiac arrhythmia diagnosis rates are similar to IPED.

Methods: On 22nd July 2019 the SPACC was launched at the Royal Infirmary of Edinburgh to investigate palpitations or pre-syncope using a smartphone-based event recorder. Patients aged 16 years or older seen in the ED or Acute Medicine Unit with palpitations or pre-syncope, whose ECG is normal, who have an apple/android phone/tablet or watch and in whom an underlying cardiac arrhythmia is thought possible are booked into the next available SPACC. Here they are fitted and trained in recording an ECG using Kardia/AliveCor. They are discharged with the device for 1 month after which they return to the clinic for review of any ECG tracings they have recorded along with their symptom diary (<https://www.emergeresearch.org/wp-content/uploads/2015/12/Smartphone-Palpitation-Service.pdf>). This project was deemed not to require ethical approval and was registered with the Lothian eQuiPED registry. Clinic data was collected retrospectively and interviews were conducted with SPACC staff.

Results: Between 22nd July 2019 and 31st October 2019, 68 patients seen in the ED with palpitations or pre-syncope were referred to SPACC. 74% underwent full investigation. 11% were deemed on first assessment to have non-cardiac palpitations and were not fitted with the device. A symptomatic cardiac arrhythmia was detected in 8.8% of patients (IPED 8.9%). Baseline demographics (age, sex, presenting complaint) were similar to IPED.

Qualitative feedback from the SPACC team suggested review of referral criteria to ensure clinic slots were prioritised for higher risk patients. It was also felt that better embedding of electronic ECGs into the Electronic Patient Record was needed and for patients to download the Kardia app prior to clinic attendance to reduce time. These recommendations are in the process of being incorporated into the SPACC pathway.

Conclusion: A smartphone palpitation service based in ambulatory care is simple to implement and is effective at detecting cardiac arrhythmia in ED palpitation patients.

References: (1) Reed MJ et al. Multi-centre RCT of a smartphone-based event recorder alongside standard care versus standard care for patients presenting to the ED with palpitations and pre-syncope: the IPED study. *Lancet eClinical Medicine* 2019; 8: 37–46

Trial Registration / Funding Information (only) :

This project was deemed not to require NRS ethical approval and was registered with the Lothian eQuIPED registry.

#23265 : Uncommon does not mean impossible: acute adrenal insufficiency

Authors:

Noemi Garcia Cristobal (1), Gresby Carolina Luzardo Lopez (1), Maria Martin Sanchez (1)

1. Emergency Department, Hospital Nuestra Señora de Sonsoles, Ávila, Spain

Keywords: Adrenal insufficiency, adrenal hemorrhage

Abstract :

We present the case of a 78-yo male with abrupt pain in the right renal fossa. He had a previous history of hypercholesterolemia, chronic lymphatic leukaemia type B, chronic atrial fibrillation and an abdominal aneurism endoprosthesis. He was receiving treatment with Sintrom, Digoxina, Alopurinol, Rosuvastatina, omeprazol and lexatin and had no drug allergies. He was independent in his daily activities and was the caregiver of his daughter with Down syndrome.

He was brought to the ED by ambulance, where was treated with fentanyl and metoclopramide for severe pain and nausea. Upon admission he was diagnosed as a possible renal colic.

At arrival he was stable, with BP 175/100mmHg, HR 73 bpm, basal glycemia 162 and a temperature of 36.5°C. He referred severe pain in the right renal fossa for the last 5 hours with an abrupt onset and nausea with vomiting. No previous history of UTI, chest pain or abdominal traumatism.

During the examination the patient hypoventilated in both pulmonary bases. The abdomen was distended; painful in the right hypocondrio, right flank and right renal fossa but there was no clear peritoneal irritation. Cardiac and neurological examination was normal.

Initial treatment consisted of fluids, toradol, omeprazol, yatrox and fentanyl following the suspicion of a complicated renal colic. The EKG, thorax and abdominal x-ray were normal, but the patient kept getting worse.

We discussed the case with the radiologist and decided to do a CT scan, which showed a 6.8 x 5 x 6.5 right suprarrenal hematoma with active bleeding and moderate/severe hemo-retro-peritoneum. Our patient was immediately transferred to an Acute Care Unit and was treated with a selective chemoembolization by the interventionist radiologist.

We decided to present this case report as it is an unusual presentation of abdominal pain and as a way to review whether our course of action was appropriate and what could have been improved. We delivered early analgesia with opioids and kept reviewing the patient. We also suspected severity and did a CT scan working as a team with different specialists. We also believe the communication with his family was effective, delivering the news progressively. On the other hand, we did not include suprarrenal haemorrhage in the differential diagnosis and therefore we could have improved the treatment.

Attachment: NGC acute adrenal insufficiency.jpg

#23269 : AAA case of swallowed button batteries

Authors:

Charlotte Elliott (1)

1. ST5 Emergency Medicine, Wirral University Teaching Hospital NHS Foundation Trust, Wirral, United Kingdom

Keywords: mental health, poisoning, batteries

Abstract :

Introduction: The National Poison Data System received notice of 56,535 button battery ingestions from 1985–2009. Most pass through the GI tract without incident but fatalities have increased seven-fold over the last decade.

Case: A 24-year-old male with a history of mental health issues presented to the ED having swallowed a handful of button batteries.

He has discomfort to the upper abdomen and has vomited. An abdominal x-ray shows a collection of button batteries in the stomach.

Case discussion:

Batteries lodged in the oesophagus are a medical emergency and must be removed within 2 hours to avoid serious, delayed complications including local necrosis, perforation or death. Symptoms may not be present initially.

The National Capital Poison Center and the National Poisons Information Service offer helpful advice.

Due to the potential risk of electrical burns this patient went for endoscopy. 25 batteries were removed from the stomach, the tissues looked normal.

An xray image with patient consent form is available to support the case report.

Attachment: Photo 03-02-2020, 03 22 58.jpg

#23273 : Imminent epileptic status

Authors:

Ana Ramos Rodríguez (1), María José Garea García-Malvar (2), Beatriz Martín Pérez (1), Nieves Sobradillo Castrodeza (3), Jorge Gayete Cabrera (1), Olga Fernández Arconada (2), Cintia González Santana (1), Jesús Ángel Moche Loeri (1), María Gonzalez Araujo (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain
2. Neurology, Hospital Universitario Río Hortega, Valladolid, Spain
3. Emergencias, Hospital Universitario Río Hortega, valladolid, Spain

Keywords: seizures, status, emergency

Clinical images of patients (suitably anonymised)

Patient images are involved and I have adequate permission to use them

Abstract :**Breves detalles clínicos**

Mujer de 26 años antecedentes con médicos personales: áx a basilar. No hay hay tratamiento habitual o antecedentes familiares médicos. Llegó al Servicio de Urgencias del hospital en después de un primer episodio de dos ataques tónico-clónicos generalizados que duraron segundos con una recuperación de la conciencia entre los los los pérdidas de 2 minutos. Testigo, sinante aparente o pérdida del control del esfínter. Hematoma en la lengua. Estabilización en el departamento de urgencias, somnoliento y Glasgow 11 con exposición posterior a una neurología después de considerar la admisión a cuidados.

Descripción de las anomalías relevantes

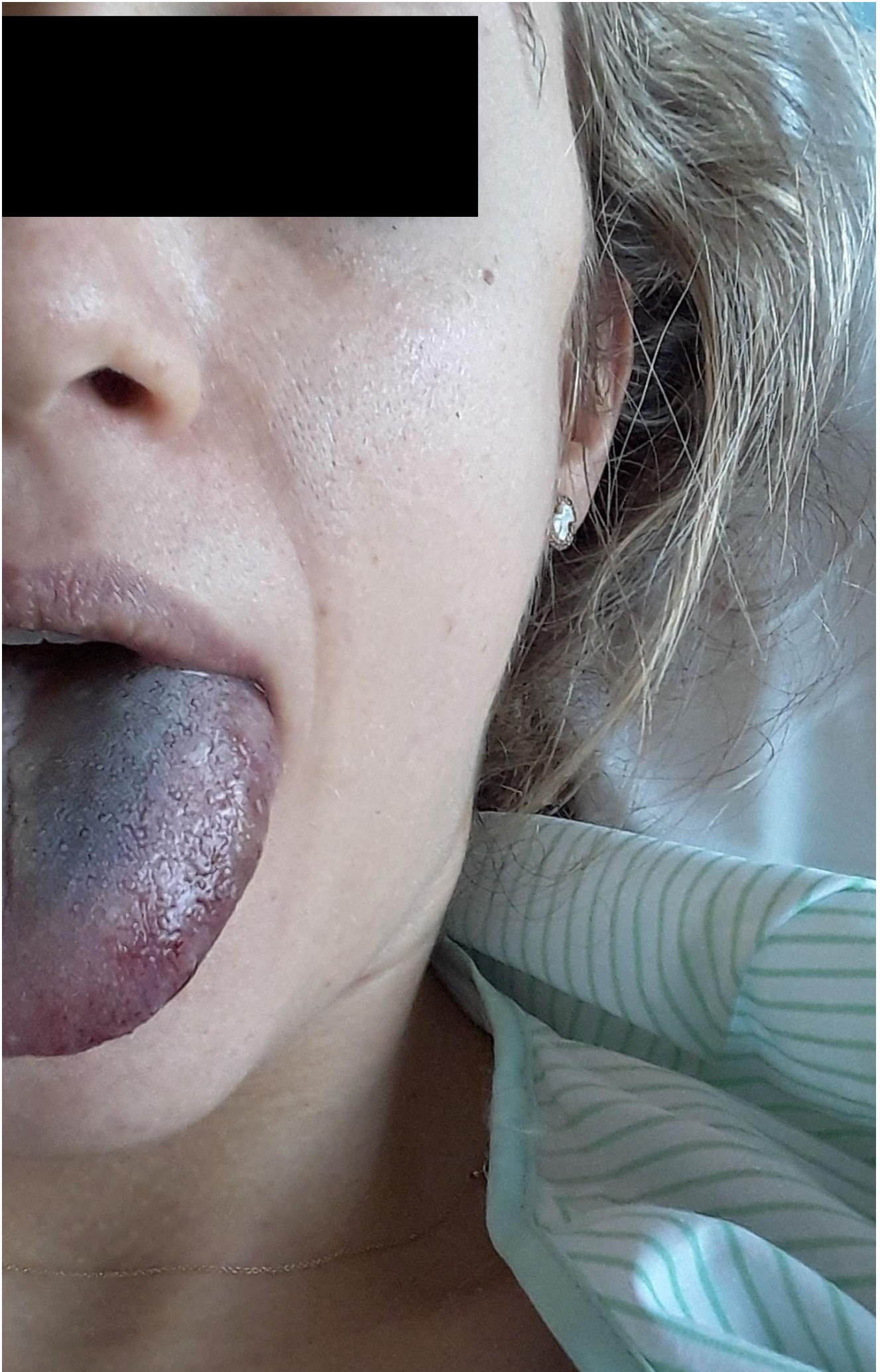
Tocada computarizada del cerebro, imágenes magnéticas de resonancia cerebral y anodina electrocardiograma. Tóxicos en sangre y orina, serologías: negativas. Electroencefalograma: ausencias atípicas.

Índice de caso de estudio genético: portador heterocigoto de cambios en la gen *ICK* (célula intestinal quinasa), condignóstico de herencia autosómica con dominante variabilidad intrafamiliar por la madre y el padre respectivamente, asintomática.

Portador heterocigoto de cambios en el gen *CACNA1H* (canal cerrado por voltaje de calcio), conatrón de herencia autosómica dominante, heredado por la madre, no pudiendo establecer una relación directa.

¿Por qué esta imagen es clínica o educativamente relevante?

El estado es una situación clínica dependiente del tiempo sin recuperación de la conciencia intercrisis o prolongación más allá de 5 minutos, subdiagnosticada por la mala identificación de la no convulsión. La anamnesis poco frecuente, la terapia de acción y farmacológica no puede esperar resultados resultados por la morbimortalidad grave asociada.



#23275 : Emergency Physician run diagnostic pathway for deep vein thrombosis

Authors:

Lars Petter Bjoernsen (1), Ingvild Meese (2), Lars Eide Næss-Pleym (1), Lars Erik Laugsand (1)

1. Emergency Department, St. Olav' Hospital, Trondheim, Norway

2. , Norwegian University of Science and Technology (NTNU), Trondheim, Norway

Keywords: Ultrasound, Emergency Physician, Deep Vein Thrombosis, DVT

Abstract :**Background**

Deep vein thrombosis (DVT) is a common diagnosis and the incidence is increasing (1). Development of a more efficient diagnostic pathway for these patients in the emergency department is paramount. From May 1, 2019, the emergency physicians (EP) were responsible for the full workup of patients with suspected DVT, including the ultrasound diagnostics (2). This study evaluated the logistic effects of an emergency physician driven diagnostic pathway in the ED at Norwegian university hospital.

Methods

Data were collected from all patients referred to the ED at a Norwegian University Hospital with suspected DVT during a 6-month period after establishing an EP run daytime diagnostic pathway from May 1, 2019. Data were analyzed based on the variables length-of-stay in the ED (EDLOS), disposition (discharge versus hospital admission), and discharge diagnosis for DVT (ICD-10 I80.1 or I80.2). Data from similar patients between May 1 - October 31 in 2018 were used as control group.

Results

In the study periods 511 patients (2019) were referred to DVT evaluation, while 423 patients were evaluated in 2018. There was a 21% increase in patients after establishing the diagnostic pathway. EDLOS for patients in the diagnostic pathway was 126 minutes compared to 237 minutes for patients with traditional workup in the ED. Patients diagnosed with DVT was 10 % (n=44) and 8 % (n=43) in 2018 and 2019, respectively. Almost all patients (n=240) evaluated through the diagnostic pathway (98%) were discharged home, while only 46% were discharged after traditional work-up in the ED.

Conclusion

Establishing an emergency physician run diagnostic pathway, which includes the

ultrasonographic workup, has shown to decrease the EDLOS and increase number of discharged patients. A standardized work-up and on-site ultrasound are likely factors for these improvements. The increased number of referred patients is can be explained by the tunneling of patients through a standardized pathway. The workup by the ED physicians including ultrasonography seems to be safe and efficient, but ongoing studies look at the effect on patient safety, diagnostic quality, cost-effectiveness.

References

1. Di Nisio M, van Es N, Büller H. Deep vein thrombosis and pulmonary embolism. *Lancet* 2017; 388: 3060–3073
2. Fox JC and Bertoglio KC. Emergency Physician Performed Ultrasound for DVT evaluation. *Thrombosis* 2011, Volume 2011, Article ID938709

#23285 : Analysis on the Current Status of Disaster Emergency Medical Response Manuals for Public Health Center in 23 Cities and Counties in Gyeongsangbuk-do

Authors:

DAIHAI CHOI (1), Heebum Yang (2), Ho Sung Seo (3), Gyo Seok Shin (4)

1. Emergency Dept. Disaster Dept., Dongguk University, School of Medicine, Gumi, Korea, Republic of
2. Emergency Dept. Disaster Dept., Eulji University, School of Medicine, Seoul, Korea, Republic of
3. EMT, National Emergency Medical Center Gyeongbuk Emergency Medical Support Center, Andong, Korea, Republic of
4. EMT, National Emergency Medical Center Gyeongbuk Emergency Medical Support Center, Gumi, Korea, Republic of

Keywords: Disaster response, Emergency Medical Response Manual, Public Health Center

Abstract :

The main contents of Korea's comprehensive measures for national disaster management are divided into disaster-responsible agencies, disaster-supervising agencies and disaster-support agencies in the event of a disaster. It has shifted from the central government's government-led province to a public-private cooperation check system centered on local sites, and is pushing for the unification of the dualized legal system of natural and human disasters into the basic disaster and safety management law. The Central Safety Management Committee, the highest organization, was launched and the National Fire Agency was established exclusively for on-site response. Comprehensive disaster management information system (NDMS) was established. The standard manual for crisis management consists of 32 types: natural disasters (5) and social disasters (27). It is a manual for responding to major situations (12 kinds). The 32 kinds Action Manual for Field Measures is dedicated to the Ministry of Health and Welfare and the city and county health centers for medical response. The Si/Gun Health Center shall prepare a manual for medical response to disaster situations and an on-site report on disaster situations.

Over the past two years, the government collected manuals from 23 city and county health centers and fire departments in Gyeongsangbuk-do to investigate response procedures, but only made perfunctory comments about all disasters.

Manual analysis : Step1 · Review of manuals by major types · Review of manuals by major types Step2 · Analysis of roles of disaster management agencies, disaster management agencies, and disaster management support agencies given by the top Step3· Verification of roles of agencies concerned Step4 · Reflect of manuals Step5 · Review proposals for insufficient/unreflective fields Step6 · Case analysis by major types Step 7 · Recommendation for rewriting the relevant agency's manual was carried out in the order.

In particular, there was no mention of the cooperation of related agencies needed to

cope with disasters. There was no survey on medical demand and supply by city or county. In the event of a disaster, actual operation was found to be difficult based on the manual. Revisions are needed in line with actual operations.

#23290 : Evaluation of the value of suPAR in patients with severe respiratory infection and suspected infection by influenza virus**Authors:**

Cramp Vinaixa Mireia (1), Maria Carmela Luna Muñoz (2), Espin Aguade Pablo (3), Paul Salazar Nicolas (2), Hernandez Medina Irina (3), Ana Pilar Sanz Collado (2), M Carme Boque Oliva (2)

1. Emergency Department, Hospital Universitari Joan XXIII - ICS, Spain, Spain
2. Emergency Department, Hospital Universitari Joan XXIII - ICS, Tarragona, Spain
3. Emergency department , ICS Hospital Universitari Joan XXIII, Tarragona, Spain

Keywords: Influenza, Human- Biomarkers- Receptors, Urokinase Plasminogen Activator

Abstract :

Background: The biomarker suPAR (soluble urokinase plasminogen activator receptor) has been shown to be associated with morbidity and mortality of numerous acute and chronic diseases in general population, so we decided to evaluate the association of the initial suPAR values in patients with severe respiratory infection and suspected influenza, with different prognostic variables, and to analyze the differences between patients in whom the influenza virus has been confirmed by PCR.

Methods: Prospective observational study. We included patients aged >15 years who consulted in the emergency department with severe respiratory infection criteria and suspected infection by influenza virus.

A universal descriptive analysis has been carried out, providing the absolute frequencies and proportions for categorical variables; and mean, median, standard deviation and their 95% confidence intervals for continuous variables. Furthermore, a bivariant analysis was performed comparing the value of the main variant based on the presence of the different covariates. The analysis was performed with the SPSS 15.0 statistical program and a statistical significance level of $p < 0.05$ (bilateral) was used in all of them.

Results & Discussion: A total of 164 patients were included. We have divided the initial value of suPAR into Group A <3ng/mL (2 patients), Group B 3-9ng/mL (72 patients) and Group C >9ng/mL (79 patients).

Of the total, 93 (57%) were men and 71 (43%) women. The mean age of the total is 66 years and significant differences in age have been observed between the group suPAR B and C (older patients with a mean of 71 years). Furthermore, 37 (26%) were smokers. Half of the patients (51%) presented risk factors for complications and 77% had associated pathologies. Of the total, 46 patients had FINE 4-5 or CURB65 3-5 pneumonia, 82 respiratory failure, 6 septic shock and 4 multi-organ failure.

In both groups, a similar relationship of presence of previous associated pathologies is observed, although in the suPAR C group, a higher prevalence of patients with chronic kidney disease and associated neoplastic disease has been related. Both groups presented the same probability of presenting complications associated with respiratory infection, although a higher immunosuppression status was associated in patients in the suPAR C group.

According to the relationship of the initial suPAR value with the prognostic variables, no difference was observed between suPAR groups and lactate >4 mmol/L. There was a higher prevalence of procalcitonin >1 ng/mL in suPAR C (60%) compared to those in the suPAR B (22%). The qSOFA scale has been positive (2 or 3 criteria) in 15 patients (9%).

The diagnosis of influenza has been confirmed in 67 (40%) patients, being positive to 44% in the two groups B and C, respectively, without statistically significant differences. 7 patients have died.

Conclusions: In conclusion, the initial suPAR value is not a predictor of severity to evaluate patients with suspected severe respiratory infection or confirmation of influenza virus infection, although in patients with suPAR >9 ng/dL there is increased severity and mortality, reinforcing the NPV of low suPAR levels with a better prognosis. Still, more specific studies are needed to link suPAR to influenza virus.

#23305 : Effect of age-adjusted d-dimer for the exclusion of pulmonary embolism diagnosis in an Emergency Department: an observational study**Authors:**

Francesca Maltese (1), Andrea Duca (2), Giuseppe Romanelli (3), Roberto Cosentini (4)

1. , , Villa di serio (BG), Italy

2. , Department of Emergency Medicine, Ospedale Papa Giovanni XXIII, 24121 Bergamo, Italy;, milano, Italy

3. , Professor of Clinical Medicine, Department of Clinical and Experimental Sciences, University of Brescia, 25121 Brescia, Italy, Brescia, Italy

4. , Department of Emergency Medicine, Ospedale Papa Giovanni XXIII, 24121 Bergamo, Italy;, Milano, Italy

Keywords: pulmonary embolism, age-adjusted d-dimer, Geneva score

Abstract :

Introduction: since 2010 a new age-adjusted d-dimer threshold has been proposed with the aim of reducing the number of CT scans done to rule out pulmonary embolism (PE). However, only in the last years this method has been adopted in Italian emergency departments. Particularly during 2017 the age adjusted cut-off has started to be used in our emergency department.

Objectives: to evaluate the effect of the introduction of the age-adjusted d-dimer threshold instead of the 500 ng/ml cut-off for the exclusion of pulmonary embolism diagnosis in the Emergency Department of Ospedale Papa Giovanni XXIII of Bergamo.

Methods: retrospective chart review observational study including patient older than 50y presenting to the Emergency Department of Ospedale Papa Giovanni XXIII of Bergamo in whom a d-dimer was dosed in the suspicion of pulmonary embolism from 01/2017 to 12/2017. Exclusion of the patients with Geneva score ≥ 11 . Evaluation of d-dimer value in all of the pts; Evaluation of number of CT scan done and results and number of thromboembolic events documented in the following year hospital evaluations in pts with d-dimer >500 ng/ml but with negative age adjusted d-dimer.

Results: In the period from Jan 2017 to Dec 2017 in 672 patients a d-dimer was requested in the suspicion of PE. 2 pts were excluded because of Geneva score >11 . Of the remaining 670, pts 336 (50,1%) had a negative age adjusted d-dimer. 81 of them (24%) had a d-dimer > 500 ng/ml. Within these 81 pts with d-dimer >500 ng/ml but $<$ age adjusted value, 23 pts (28%) had a CT scan done in the emergency department with no PE documented, 53 (65%) had no CT scan done in the ED but had a visit in the following year documenting no thromboembolic events, 5 pts (6%) had no follow up.

Discussion: our data show that during 2017 we avoided 58 unnecessary CT scans in patients with suspected PE (8.7% of all patients with suspected PE judged to be not high risk) using the age-adjusted d-dimer. This number could have been increased to 81 (12%) if all of the patients with negative age adjusted d-dimer would have had no CT scan done. No thromboembolic events were found within patients with d-dimer > 500 ng/mg but $<$ age adjusted cut-off.

Conclusion: In our study we found a significant reduction in CT scan use in ruling out PE in our emergency department with no increase in thromboembolic events using the age adjusted d-dimer threshold. These data support an increased effort to widely apply the age adjusted cut-off to all patients with suspected PE in which a d-dimer is dosed.

#23306 : Prevalent infections in the elderly in the emergency department: differences between the respiratory and urinary infections**Authors:**

Ferran Llopis (1), Carles Ferre (1), Sebastia Quetglas (1), Manel Tuells (1), Marta Maristany (1), Ana Badia (1), Javier Jacob (1)

1. Emergency Department, Hospital Universitari de Bellvitge, Barcelona, Spain

Keywords: Respiratory infection, urinary infection, emergency, elderly.

Abstract :**Introduction**

Infections account for 15% of the visits attended in the hospital emergency departments and the prevalence has increased in the last decade, especially in the elderly population. Respiratory and urinary infections are the most prevalent infections in the general population as well as in the elderly.

Objective

To analyze the clinical features of respiratory and urinary infections in elderly patients and to compare both types of infection looking for the differences in the clinical presentation and outcome.

Methodology

Multicentric descriptive, prospective, observational study of patients older than 75 years with infection treated in 69 hospital emergency departments in our country. We analyzed and compared the clinical presentation and outcome according to the two most prevalent models of infection, the respiratory and urinary infections.

The qualitative variables were expressed as frequencies and percentages and the quantitative variables as mean and standard deviation. For comparison of the first the Chi square test was used, and the Student's test was used for independent samples for the second. The SPSS 24.0 (Inc, Chicago, IL) statistical program was used for the statistical analyses.

Results

We recorded 1,662 infection episodes: 958 (58%) respiratory infections, 371 (22%) urinary, 189 (11%) abdominal, 114 (7%) skin and soft tissue and 30 (1,8%) other infections.

The respiratory infections were pneumonia (n=321, 34%), bronchitis (n=312, 33%), COPD exacerbation (n=197, 21%), bronchiectasis (n=33, 3,4%) and others (n=160, 17%). More than one concomitant respiratory infection was observed in up to 65 cases.

The urinary infections were lower urinary tract infections (n=243, 65%), bladder catheter carrier infections (n=42, 11%), prostatitis (n=17, 4,6%), pyelonephritis (n=14, 3,8%) and other infections (n=80, 22%).

In up to 46 episodes, both types of infection were documented and were excluded from the comparative analysis, resulting 912 respiratory and 325 urinary infections episodes.

When comparing the 912 respiratory infection episodes with the 325 urinary infections episodes, statistically significant differences were observed, respectively, in the following parameters: female sex (47% vs 57%; p=0,003), presence of cognitive impairment (23% vs 35%; p <0,001), Barthel index ($66,13 \pm 37,06$ vs $57,93 \pm 38,94$; p=0,002), previous 3 months admission (21% vs 16%, p=0,049), temperature (°C) ($36,85 \pm 0,96$ vs $36,69 \pm 1,02$; p=0,013), respiratory rate (breaths per minute) ($22,30 \pm 7,26$ vs $18,99 \pm 6,09$; p<0,001), mean arterial blood pressure (mmHg) ($103,99 \pm 18,83$ vs $100,66 \pm 19,67$; p=0,009), SatO₂/FiO₂ (436 ± 27 vs 452 ± 19 ; p <0,001), creatinine (mg/dL) (1,22

$\pm 0,79$ vs $1,47 \pm 1,14$; $p < 0,001$), procalcitonin (ng/mL) ($1,20 \pm 5,62$ vs $6,55 \pm 22,00$; $p = 0,005$), destination (discharge home 27,63% vs 41,54%; conventional hospital admission 54,82% vs 39,08%; $p < 0,001$) and 30-days mortality (13,01% vs 8,5%; $p = 0,039$).

Conclusions

When comparing the most prevalent infections in the elderly attended in hospital emergency departments we found that respiratory infections in comparison to urinary infections more frequently affect men with less comorbidity, although the former require more hospitalization and the mortality is higher.

#23310 : A case of severe bronchospasm induced by human metapneumovirus in an adult**Authors:**

Mohamed Shirazy (1), Raj Kondragunta (2), Muhammad Azhar (2)

1. Emergency Department & ICU, University Hospitals of Morcambe Bay NHS Foundation Trust, Cumbria, United Kingdom
2. Emergency Department, University Hospitals of Morcambe Bay NHS Foundation Trust, Cumbria, United Kingdom

Keywords: Bronchospasm, Human metapneumovirus

Abstract :**Consent:**

Informed written consent to publish this case report with maintaining the anonymity has been obtained from the patient

Case Presentation:

A 66-year-old truck driver, presented with severe shortness of breath and inability to complete a sentence. He had a cough for two days before the presentation. Regarding his past medical history, he had hypertension, and hypothyroidism for which he was taking Levothyroxine however; he was not on any antihypertensive medications.

On examination, he was alert, the airway was patent, the chest was severely wheezy bilaterally, SPO₂ was 93% on room air, and respiratory rate was 35 breath/ minute. Additionally, his blood pressure (BP) was 210/110 mmHg, heart rate was 110 beats/ minute, capillary refill time was 1 second, and the temperature was 36.8 degrees Celsius.

Intravenous access was inserted and blood was collected for FBC, U&Es, LFTs, and troponin. Besides, throat and nasopharyngeal swabs were sent for film array respiratory panel.

The patient was managed as acute severe asthma versus hypertensive induced cardiac asthma. Accordingly, back to back nebulisers with salbutamol and ipratropium bromide, intravenous hydrocortisone, and magnesium sulphate in addition to glyceryl trinitrate (GTN) intravenous infusion were administered.

Chest x-ray showed bilateral clear lung zones with normal mediastinum.

After forty minutes the patient settled down. Follow up examination revealed BP 150/89 mmHg, heart rate 87 beats/ minute, respiratory rate 20 breaths/minute, SPO₂ 100% on room air and the wheezes resolved.

However, blood results were within the normal range, the film array respiratory panel detected human metapneumovirus.

The patient was then admitted to the acute medical unit under the diagnosis of severe bronchospasm induced by human metapneumovirus.

Clinical relevance:

This case describes a rare and atypical presentation of severe bronchospasm in adults induced by human metapneumovirus.

Human metapneumovirus is a common cause of upper and lower respiratory tract infection that can induce severe bronchospasm.

Attachment: xr chest.docx

#23311 : Septic shock, biomarkers and predictors of the outcome**Authors:**

Mohamed Shirazy (1), Islam Omar (2), Anis Chaari (3), Kamel Bousselmi (3), Karim Hakim (3), Raj Kondragunta (4)

1. Emergency Department & ICU, University Hospitals of Morcambe Bay NHS Foundation Trust, Cumbria, United Kingdom
2. Surgical Department, South Tyneside and Sunderland NHS Foundation Trust, Sunderland, United Kingdom
3. ICU, King Hamad University Hospital, Muharraq, Bahrain
4. Emergency Department, University Hospitals of Morcambe Bay NHS Foundation Trust, Cumbria, United Kingdom

Keywords: Septic shock, biomarkers, mortality

Abstract :

Background

Septic shock is a medical emergency that accounts for high mortalities in the intensive care unit (ICU). This study aims to test the reliability of different parameters to predict the outcome in septic shock.

Methods

A prospective study conducted on septic shock patients admitted from the Emergency department to the ICU in King Hamad University Hospital, Bahrain from January 2017 to February 2019. Sepsis-3 definition was adopted to define septic shock using Quick-Sofa score ≥ 2 . Data including age, sex, source of sepsis, and comorbidities were collected. Additionally, white blood cell count (WBC), C-reactive protein (CRP), pro-calcitonin (PCT), lactate, and absolute eosinophilic count were measured at days 1, 3, and 7. Data was correlated with the outcome (survival/death and the length of ICU stay).

Results

Patients included were 168, 110 survived, and 58 died. Immunosuppression and high lactate at day 7 were independent predictors of mortality $P = 0.042$, and 0.008 respectively. Chest infection and higher PCT at day 3 were independent predictors of length of ICU stay $P = 0.041$, and 0.017 respectively.

Conclusion

Immunosuppression and high lactate level at day 7 are independent predictors of mortality.

Chest infection and higher PCT level at day 3 are independent predictors of the ICU length of stay.

Trial Registration / Funding Information (only) :

No funding grants were received No conflicts of interests relevant to the study

#23314 : Impact of early intravenous amiodarone administration on neurological outcome in refractory ventricular fibrillation: retrospective analysis of prospectively collected prehospital data.

Authors:

Park Seung Min (1), Yong Hun Min (1)

1. , Seoul National University Bundang Hospital, Seongnam-si, Korea, Republic of

Keywords: Amiodarone; Cardiopulmonary resuscitation; Emergency medical services; Prognosis; Ventricular fibrillation

Abstract :

BACKGROUND: The 2015 AHA guidelines recommend that amiodarone should be used for patients with refractory ventricular fibrillation (RVF). However, the optimal time interval between the incoming call and amiodarone administration (call-to-amiodarone administration interval) in RVF patients has not been investigated. We hypothesized that the time elapsed until amiodarone administration could affect the neurological outcome at hospital discharge in patients with RVF.

METHODS AND RESULTS: This study is a retrospective analysis of prospectively collected data. One hundred thirty-four patients were enrolled. In univariate logistic regression, the probability of a good neurological outcome at hospital discharge decreased as the time elapsed until amiodarone administration increased (OR 0.89 [95% CI = 0.80-0.99]). In multivariate logistic regression, the patients who were administered amiodarone in less than 20 min showed higher rates of prehospital ROSC, survival at hospital arrival, any ROSC, survival at admission, survival to discharge, and good CPC at hospital discharge. The call-to-amiodarone administration interval of ≤ 20 min (OR 6.92, 95% CI 1.72-27.80) was the independent factor affecting the neurological outcome at hospital discharge.

CONCLUSION: Early amiodarone administration (≤ 20 min) showed better neurological outcome at hospital discharge for OHCA patients who showed initial ventricular fibrillation and subsequent RVF.

Authors:

Oh Young Taeck (1), Yong Hun Min (1)

1. , Seoul National University Bundang Hospital, Seongnam-si, Korea, Republic of

Keywords: geriatrics; organophosphate poisoning; cholinesterases

Abstract :

Background: This study is aimed at evaluating the characteristics of plasma cholinesterase level in geriatric organophosphate (OP) poisoning patients and clinical courses associated with the plasma cholinesterase level.

Method: We conducted a retrospective study of 135 patients who had ingested organophosphate insecticides between Jan 2000 and Dec 2015. Patients were dichotomized into age ≥ 65 (geriatric group) and < 65 years (non-geriatric group). Clinical course and serial plasma cholinesterase level were investigated.

Results: Age was associated with higher incidence of hypotension and central nervous system depression (geriatric group vs. non-geriatric group: 38.6% vs. 21.1% [$p = 0.032$]; 37.8% vs. 19.1% [$p = 0.019$], respectively. The plasma cholinesterase level recovered more rapidly in the non-geriatric group than in the geriatric group ($p = 0.022$). Regarding outcomes, hospital survival rate was lower in the geriatric group than the non-geriatric group (73.3% vs. 91.1% respectively, $p = 0.006$).

Conclusions: In OP poisoning patients, even though the presenting symptoms and plasma cholinesterase level were similar, the incidences of shock and CNS depression during admission were higher in the geriatric group than in the non-geriatric group. Given these findings, physicians should beware of deterioration of geriatric OP poisoning patients even their initial presentation is mild.

#23317 : The effect of a single telephone follow-up call for older patients, discharged home from the emergency department on unplanned emergency department return visits: a controlled cohort study.

Authors:

Merel Van Loon (1), Merel Van Loon (2), Jori Peels (3), M. Christien Van der Linden (3)

1. , M.C. Haaglanden, Leiden, The Netherlands
2. Emergency Department, Haaglanden Medical Center, Leiden, The Netherlands
3. Emergency Department, Haaglanden Medical Center, Den Haag, The Netherlands

Keywords: telephone follow-up, older patients, emergency department, return visits

Abstract :**Introduction:**

Post-discharge telephone calls to older patients are increasingly used to optimize the transition from the Emergency Department (ED) to home. However, their effectiveness on ED return visit rates is not established.

The primary objective of this study was to determine whether a telephone intervention by an ED nurse would decrease unplanned 30-day ED return visit rates. The secondary objective was to examine the reasons for ED return visits.

Methods:

This cohort study was conducted in a Dutch inner-city ED from October 2018 until March 2019. ED patients aged ≥ 70 years received a semi-scripted telephone call from an ED nurse within 24 hours after discharge home during odd months to identify post-discharge problems, review discharge instructions and facilitate medication acquisition and follow-up appointments. Control patients aged ≥ 70 years, discharged during even months, received a satisfaction survey call only. Reasons for unplanned 30-day ED-revisits were categorised as physician-related, patient-related, illness-related, new complaint or other. Outcomes were return to the ED within 30 days after discharge and reason for ED revisit.

Results:

In each group 318 patients were included. In the intervention group 36 (11.3%) patients returned to the ED within 30 days compared to 39 (12.3%) in the control group ($p=0.712$; odds ratio: 1,095 (95% confidence interval: 0,676-1,774). In both groups, the main reason for ED return was illness-related: 26 (59%) patients in the intervention group and 23 (51%) in the control group. The number of patient-related ED revisits was lower in the intervention group ($n=2$ (4%)) compared to the control group ($n=10$ (22%)). Due to the small number of return visits, significance of these findings could not be determined.

Conclusion:

Post-discharge telephone calls by ED nurses to older patients did not reduce ED return rates within 30 days. In both groups, progression of illness was the main reason for unplanned ED return visits.

Trial Registration / Funding Information (only) :

The ethical review committee of Haaglanden Medical Center (METC Zuidwest Holland) granted institutional review board exemption (number METC-nr 17-028). This research was part of a bigger research project, that was registered by the Netherlands National Trial Register (NTR) under number 6815.

#23318 : The diurnal and seasonal relationships of pedestrian injuries secondary to motor vehicles in young people.

Authors:

Amina Akhtar (1), Rory O'Connor (2), Jamie Corkill (3), Lauren Blackburn (2), Adam Brooks (3)

1. major trauma, Queens Medcial Centre, nottingham, United Kingdom
2. major trauma, Queens Medcial Centre, Nottingham, United Kingdom
3. major trauma, Queens Medcial Centre, nottingham, United Kingdom

Keywords: motor vehicle accidents, Trauma Audit and Research Network (TARN) national database, pedes,trian trauma

Abstract :

Abstract title: The diurnal and seasonal relationships of pedestrian injuries secondary to motor vehicles in young people.

Introduction: There remains a significant morbidity and mortality in young pedestrians hit by motor vehicles, even in the era of pedestrian crossings and speed limits. The aim of this study was to compare incidence and injury severity of motor vehicle-related pedestrian trauma according to time of day and season in a young population. We hypothesised that injuries in young people would be more prevalent during dusk and dawn and during autumn and winter.

Methods: Data was reviewed from patients between 10-25 year olds in the Trauma Audit and Research Network (TARN) national database, who had been involved as a pedestrian in a motor vehicle accident between 2015 -2018. The incidence of injuries, their severity (using the Injury Severity Score [ISS]), hospital transfer time and mortality were analysed according to the hours of daylight, darkness and season.

Results: 64.5% of injuries occurred during time of darkness, while 35.5% occurred during daylight. The incidence of injuries in motor vehicle accidents, in absolute terms, was highest during **1630-2400**, with a second peak at **1500-1630**. The greatest injury rate (number of injuries/hour) occurred during **0730-0900** and **1500-1630** with respective rates of 5.3 and 8. Injuries scoring an ISS over 15 occurred 21.7% at 1500-16300 and a further 42.9% until 2400. Mortality was greatest during **1500-1630** involving 4 out of the total 7 deaths. Autumn was the predominant season and lead to 40.3% of injuries, with a further 22.6% in winter. This demonstrated a clear difference to 19.4% and 17.7% in spring and summer.

Conclusion: We have identified a relationship between reduced daylight and the frequency and severity of pedestrian trauma in young people suggesting that reduced visibility may play a significant role which could be addressed through a targeted public health approach to implement change.

Authors:

Raquel Gómez de León Zapata (1), Pascual Piñera Salmerón (2), Lidia Teruel Sánchez (1), Sandra Gómez Velasco (1), Pablo Herrero Navarro (1), Marta López Ibáñez (1), Mariana Vallejo Bobbio (1), Jose Antonio López López (1), Léa Lagrange (1), Soledad San Román Sirvent (3), Paula Eva Carter Castelló (4)

1. SERVICIO DE URGENCIAS, Hospital General Universitario Reina Sofía, Murcia, Spain
2. SERVICIO DE URGENCIAS, HOSPITAL GENERAL UNIVERSITARIO REINA SOFIA, MURCIA, Spain
3. Alergology, Hospital General Universitario Reina Sofía, Murcia, Spain
4. Medicina Interna, Hospital General Universitario Reina Sofía, Murcia, Spain

Keywords: Asthmatic exacerbation, salbutamol, inhaled corticosteroids.

Abstract :

Background: Asthma is a chronic disease with a high prevalence, in which up to 50% of asthmatic patients has poor control of their disease and poor adherence to treatment. In this study we analyze which factors may have the greatest influence on the risk of asthmatic exacerbation.

Aims: We will analyze a series of epidemiological, clinical and therapeutic data of asthma in our environment.

Methods: All patients who consulted for asthmatic exacerbation in the hospital's Emergency Department (ED) during the period of time from January to December of 2019 were collected through the computer system belonging to our hospital.

Results: A total of 284 patients were consulted, 32.04% were women and 67.95% were men. The total average of all subjects was 46.84 years. We found that 91.90% were previously known asthmatics, where more than 51% had consulted at least once in the ED. Regarding the chronic treatment of asthma, 5.6% continued treatment with systemic corticosteroids, 54.23% with long-acting inhalers, 51.15% used rescue salbutamol and 23.6% continued treatment with montelukast. Up to 88.38% of the patients presented dyspnea, followed by cough (78.17%). It is observed that 81% went to the ED maintaining saturations above or equal to 94%.

Conclusion/Discussion: According to the latest recommendations of the GEMA guideline, maintenance treatment should include a SABA to avoid exacerbations, and in this study we have seen that only half of the patients used it chronically. Inhaled corticosteroids are the basis of daily treatment and in our sample were underuse. Almost a quarter of the patients used Montelukast, although according to the guidelines it provides lower symptomatic control. All this suggests that a correct maintenance treatment implies a better control of asthmatic disease, since it could reduce the number of asthmatic exacerbations.

Trial Registration / Funding Information (only) :

Not registered, no appropriate register. This study did not receive any specific funding.

#23320 : Exertional rhabdomyolysis: a case report of an exceptionally elevated serum creatine kinase (CK) level**Authors:**

Jonathon Kyriakides (1), Aria Khani (1), Rahul Khamar (1)

1. Acute Medicine, Royal Free London NHS Foundation Trust, London, United Kingdom

Keywords: Rhabdomyolysis, exercise, creatine kinase, acute kidney injury

Abstract :

Exertional rhabdomyolysis refers to the breakdown of skeletal muscle following strenuous activity. It can range from an asymptomatic illness with only biochemical disturbance, to a life-threatening condition with electrolyte abnormalities and acute renal failure.

A serum creatine kinase (CK) level greater than 1,000 U/L in the presence of skeletal muscle injury is diagnostic for rhabdomyolysis. Additionally, the serum CK level is often used as a prognostic marker for the risk of renal dysfunction. Despite a lack of formal guidelines, literature suggests that patients with significantly elevated CK levels should be hospitalised for supportive therapy due to a risk of renal dysfunction.

We present a case of a 32-year-old male who attended the emergency department three days after participating in a spin cycle class. He complained of dark-brown coloured urine and bilateral quadriceps muscle tenderness. He had no other medical conditions and did not take any regular medications. He was haemodynamically stable and clinically euvolemic on presentation. Initial biochemical investigations revealed a serum CK level of 332,200 U/L with normal renal function. A diagnosis of exertional rhabdomyolysis was made. The patient was admitted for intravenous fluid therapy, and was discharged after two days with a CK level of 103,320 U/L. He was monitored for a further 10 days in the outpatient department, where a steady decline in serum CK was noted. Renal function remained stable throughout. He was discharged from the outpatient setting with a serum CK of 485 U/L.

This patient reported an active lifestyle with previous participation in spin cycle classes. He denied medical complications following cycle classes previously. This highlights the importance of a combination of patient and environmental factors, and not just the length and duration of exercise alone, in the pathogenesis of exertional rhabdomyolysis.

We report an exceptional level of serum CK, with only one case in the literature describing exertional rhabdomyolysis with a higher serum CK level. A correlation between serum CK and the risk of renal dysfunction is well-documented in the literature. Despite a markedly elevated level of serum CK, there was no associated renal dysfunction in our case. This suggests that serum CK alone should not be used to dictate the risk of renal injury.

Finally, we compare the management of our case to those in the literature. There is no clear consensus as to whether an elevated serum CK in the absence of renal failure warrants inpatient management. Further, there is no guideline to suggest a level of serum CK at which to stop intravenous fluid therapy. We propose that there could be a cohort of patients without medical co-morbidities or evidence of renal dysfunction at the time of presentation, who could be managed in the outpatient setting with follow-up. This case study should be combined with other literature when deciding on best management for these patients.

#23321 : Most Emergency Medicine Residents Want to Know Their Vitality Curve Ranking**Authors:**

Fred Fiessler (1), Brian Walsh (1), Dave Salo (1), Steve gohsler (2), riggs renee (2)

1. , Morristown Medical Center, Morristown, USA

2. , Morristown Medical Center EM Residency, Morristown, USA

Keywords: Emergency Medicine, education, Vitality Curve

Abstract :

Introduction: While at General Electric (GE), Jack Welch implemented a model by which employees are ranked against their coworkers, called a Vitality Curve. Employees are separated into the top 20%, middle 70% and the lower 10%.

Objective: To determine resident's accuracy/interest in knowing their placement on a vitality curve.

Methods: Participants/setting: PGY1-3 ACGME approved emergency medicine (EM) residency program. The ACGME requires every resident to be evaluated using 23 milestones. We then averaged together the 23 milestones, creating one cumulative value for each resident. This was compared to scores of residents in equivalent training years for the past (2) years to determine if the resident ranking according to GE's scale. The ranking is not part of the official evaluation, participation is strictly voluntary, and the results were kept in confidence. A priori, residents were asked to place themselves into one of the three designated delineations.

Results: 25 residents were enrolled in this study. Males comprise 64% (N=16). One resident was excluded for being off-cycle. Ninety six percent (N=23) (95% CI 88 - 100) wished to know their placement on the vitality curve. The one resident, not wanting to participate, expressed concerns over being in the lower/middle section and deemed this not motivational. 74% (N=17) (95% CI: 56 - 92) of residents accurately predicted their tier. Of those guessing incorrectly (N=6), 66% (N=4) thought they were in a lower tier and 33% (N=2) thought they were in a higher tier. Of the five residents that were ranked in the top tier, only 20% (N=1) placed themselves in that ranking. Of the two residents ranked in the lowest tier, one (50%) surmised their correct placement.

Conclusion: The majority of our EM residents (95%) are interested in knowing their vitality curve ranking and most residents who are in the top tier are unaware of their placement.

#23322 : Pharmacist Lectures During EM Conference are Well Received by Residents and faculty**Authors:**

Fred Fiessler (1), Renee Riggs (2), Brian Walsh (1), Dave Salo (1), Steve gohsler (3)

1. , Morristown Medical Center, Morristown, USA

2. , Rutgers Medical School, New Brunswick, New Brunswick, USA

3. , Morristown Medical Center EM Residency, Morristown, USA

Keywords: pharmacy, Emergency Medicine, education

Abstract :

Introduction: As a way of increasing system based practice in the emergency department s between pharmacy and faculty/residents quarterly pharmacy lectures were added to the resident weekly conference curriculum. Pharmacy was given leeway to discuss topics which they thought were areas of concern in the department.

Objective:

To determine the quality/receptiveness of lectures given by pharmacy during resident conference compared to those given by faculty/resident.

Methods:

A retrospective observational study. Location: a suburban teaching hospital with an annual census of 98,000 patients. Study period Sept 2017 through April 2018. One month prior to pharmacy lectures the topics of discussion were forwarded to the associate and program director to assure validity to resident training. If agreed upon, pharmacy was given 45 minutes of lecture time with an additional 10 minutes for questions. Following the completion of the lecture the residents and faculty were given a closed end questionnaire to evaluate their performance. Areas of evaluation include: content, organization, style/effectiveness, knowledge, professionalism, interpersonal skills/communication, and practice based learning. All lectures were evaluated on a 1-6 Likert Scale with 1 indicating "expectation not met" and 6 defined as "expectations exceeded". Pharmacy lectures were compared to other lectures presented on that same day (ED faculty and resident). Statistics: Mann-Whitney U test with a significant P < 0.05.

Results: A total of 111 lecturer evaluations were examined with 468 individual Likert Scales.

Distribution based on lecturers was: pharmacy 29% (N=134), resident 51%(N=241), attending 16% (N=75) and nursing 4% (N=18). The overall mean score 5.76 (95% CI 5.91-5.61). Lecturer specific scores were: 5.97 (95% CI 6.27-5.67), 5.68 (95% CI 5.92-5.67) (p< 0.001), 5.80 (95% CI 6.41-5.19) (p< 0.001), and 5.11 (95% CI 6.35-3.87) (p< 0.001), respectively. With respect to the individual evaluation areas of content: organization, style, knowledge, professionalism, interpersonal skills/communication, and practice based learning no significant difference was

found.

Conclusions: Pharmacy lectures during EM conference are very well received by Emergency Medicine faculty and residents.

#23323 : Press Ganey Scores do not Improve After a Two-hour Residency Training Session.**Authors:**

Fred Fiessler (1), Renee Riggs (2), Steve gohsler (3), Dave Salo (1), Brian Walsh (1)

1. , Morristown Medical Center, Morristown, USA

2. , Rutgers Medical School, New Brunswick, New Brunswick, USA

3. , Morristown Medical Center EM Residency, Morristown, USA

Keywords: Press Ganey, Education, emergency medicine

Abstract :

Introduction: Press ganey scores are often used as an administration marker for bonuses and job security. Certainly this application has its drawbacks, but nonetheless this evaluation tool has become an important instrument for accessing physician capabilities and patient satisfaction by administration.

Objective: We sought to determine if press ganey scores would improve in the 4 months following a 2 hour intensive training course.

Methods: This was a retrospective cohort study of emergency medicine residents who underwent a 2 hour interactive educational session (outside lecturer) regarding patient satisfaction. **Population:** All residents at a three-year residency were enrolled. Overall press ganey score and doctor scores were utilized for evaluation. Scores were separated for analysis into two time segments, the 10 months preceding the session (July 2018 – April 2019) and the five months following the training session (July 2019–Nov 2019). The presentation was subsequently evaluated on a 1–6 Likert Scale (0=poor, 3=average, and 6=excellent) by both resident and attending participants.

Results: Twenty-three residents were enrolled in the pre and post intervention arms. Females made up 39% percent of participants. Overall press ganey score and doctor press ganey score were 85.6 (95% CI 86.4–84.9) and 84.8 (95% CI 85.9–83.6) pre-intervention and 83.6 (95% CI 86.2–80.9) and 81.3 (95% CI 84.9–77.7) post intervention time periods, respectively. Gender differences with regards to the press ganey scores were 83.84 (95% CI 85–2– 82.4)/ 85.2(95% CI 87.3–83.1) pre-intervention and 82.8(95% CI 87.6–78.0)/78.6 (95% CI 80.4–76.8) post intervention for males and females, respectively. Overall the presentation received a mean Likert Scale score of 3.6 (95% CI 3.8–3.2).

Conclusion: Overall it seems that a two hour press ganey interactive educational series does not improve press ganey scores on the short-term.

#23330 : Glue vs Suture – A prospective controlled study on long term outcome of facial lacerations in children**Authors:**

Sonja Fontana (1), Clemens Maria Schiestl (2), Markus Andreas Landolt (3), Georg Staubli (1), Sara von Salis (2), Kathrin Neuhaus (2), Julia Elrod (2)

1. Department of Pediatric Emergency Medicine, University Children's Hospital Zurich, Zurich, Switzerland

2. Department of Plastic and Reconstructive Surgery, University Children's Hospital Zurich, Zurich, Switzerland

3. Department of Psychosomatics and Psychiatry and Children's Research Center, University Children's Hospital Zurich, Zurich, Switzerland

Keywords: Tissue adhesive, suture, pediatric, skin laceration

Abstract :**Background:**

Although skin adhesives have been used for decades to treat pediatric skin lacerations, uncertainty remains about long-term results and complications. Objective of this study was therefore to evaluate early and long-term complications, aesthetic results, costs, duration of treatment, and quality of life (QoL) for tissue adhesive versus suture to repair facial lacerations in children.

Methods:

Design: Prospective, controlled, single-blind study

Setting: Emergency Department of the University Children's Hospital Zurich, a tertiary hospital with a census of more than 42'000 annual emergency visits

Participants: Children aged 0-16 years presenting with a laceration on the face between 07/2017 and 08/2018

Main Outcomes and Measures: Outcomes were assessed by five independent, blinded adult or pediatric plastic surgeons by means of photographs at 6-12 months using a modification of the validated Patient and Observer Scar Assessment Scale (POSAS) and the Vancouver Scar Scale (VSS). Additionally, POSAS was performed at day 5-10 (early follow-up) and month 6-12 (late follow-up) by the patients or caregiver(s) and the physician. Complications and QoL were assessed by standardized measures.

Results:

367 patients were enrolled, of which 230 were included in the main analysis. 96 wounds were closed using tissue adhesives (group 1); 134 were sutured (group 2). Assessment by the independent observers revealed an improved mean modified overall POSAS score in group 1 in comparison to group 2 (of 2.1 ± 0.7 vs 2.5 ± 0.7 ; $p < 0.001$) and mean VSS score (1.2 ± 0.9 vs 1.6 ± 0.9 ; $p < 0.001$). At the early follow-up, dehiscence rate was 12.5% in group 1 and 3.7% in group 2 ($p < 0.001$). At the late follow-up, 1 dehiscence remained per group. Mild impairment of QoL was found at the early follow-up in both groups, with no impairment remaining at long-term follow-up. Mean duration of treatment was significantly lower in group 1 than in group 2 (6.3 ± 4.0 min vs.

11.6 ± 7.2 min; p< 0.001). Treatment costs were 33.5% lower in group 1.

Discussion and Conclusions:

Both modalities of wound closure yield favorable aesthetic results and lead to low rates of complications. Adhesives are more cost-effective and application is less time-consuming and, therefore, tissue adhesives offer considerable advantages when used appropriately.

Trial Registration / Funding Information (only) :

Trial Registration: Public trial registration was performed at www.ClinicalTrials.gov (Identifier: NCT03080467). This study did not receive any specific funding.

#23331 : Organisation of emergency care during Khartoum sit in - a descriptive analysis**Authors:**

Mohieldin Mohammed (1), Zolnon Ahmad (2), Ahmed Hashim (3), Abdelbagi Ahmed (4), Ahmed E O Ali (5)

1. Emergency Department, Omdurman Teaching Hospital, Khartoum, Sudan
2. Emergency Department, King Abdulaziz Specialist Hospital, Taif, Saudi Arabia
3. Academic Office, Sudan Doctors Union - UK, London, United Kingdom
4. Emergency Department, Royal Victoria Hospital, Belfast, United Kingdom
5. Emergency Department, Royal Bolton Hospital, Bolton, United Kingdom

Keywords: Mass gathering, emergency care system, low and middle-income countries

Abstract :**Background**

During the past decade many parts of the world have experienced mass protests, notably the Arab Spring, with consequential political and social outcomes. Most of these mass gatherings also posed unusual challenges for the emergency care systems, particularly in low and middle-income countries. Khartoum sit-in attracted more than three million people between April and June 2019 in an area of 400,000 square meters approximately. The protesters' numbers were varying between a few hundred to over a million at any time of the day. This study describes the emergency care during the sit-in and analyses its organisation and governance, finance, procurement, facility-based care and training.

Methods

The authors visited and observed the sit-in, its field clinics and the receiving surrounding hospitals. They conducted unstructured interviews with volunteers and staff, reviewed available medical records and triangulated data from different resources.

Results

Mass gatherings driven by political and economic hardship are difficult to predict with limited control over their location, size or course of events. They usually attract great sympathy from the medical community in the form of volunteers and donations of medications and equipment. The highly charged political atmosphere restrict coordination and collaboration, and can jeopardise the interactions between the protest organisers and health institutions which can lead to negative outcomes.

Nine field clinics rapidly evolved and were scattered across the sit-in area both in the form of tents and by utilising the buildings in the vicinity of the sit-in. However, the clinics were run by a variety of stakeholders with no formal coordination mechanism regarding clinics' locations, funding, procurement, staffing, clinical protocols or referral pathways. Most clinics were well staffed by highly motivated volunteers, mainly junior doctors and medical students with limited clinical governance and occasionally minimal supervision. They had a good supply of medications and in-kind donations of medical equipment with organised security measures around each clinic. Most clinics had a single entry-exit point with no clear access for ambulances or evacuation plans in place. The emergency care demands were unpredictable, shifting abruptly between simple primary care presentations to tear gas and gunshot patients. Around 100 patients were seen daily with complaints related to breathing difficulties, heat and dehydration, blood sugar disturbance and probable drug abuse. Most trauma cases were related to firearms but also included falls and injuries from overcrowding. Overall, 60 people were killed and 400 injured before protesters were forced out leading to further

127 fatalities and 700 getting wounded.

Conclusion

The status of the emergency care system (ECS) and its resilience are determinants factors in the morbidity and mortality resulting from mass gatherings. Therefore, ECS strengthening effort should be holistic and include governmental, for-profit and not-for-profit facilities. Further research is needed to integrate mass gathering into a nationally agreed major incident plan with hospitals networks, training drills and referral pathways. All in all, mass gatherings put the ECS to test. Nonetheless, they provide an exceptional opportunity for it to adapt, reform and evolve.

Authors:

Svenja Ravioli (1), Bertram Weitok (1), Gregor Lindner (1)

1. Bürgerspital Solothurn, none, Solothurn, Switzerland

Keywords: shock, bradycardia, hyperkalemia, renal failure, acute kidney injury, beta-blockers

Abstract :**Introduction**

BRASH is a recently suggested syndrome consisting of bradycardia, renal failure, atrioventricular (AV) node blocking medication, shock and hyperkalemia. The proposed pathophysiology includes a trigger event to aggravate renal function, resulting in accumulation of AV-node blocker and potassium. Their synergistic effects consecutively precipitate bradycardia and hypotension, which in turn further deteriorate renal function and complicate adequate treatment.

Methods

Since current scientific data merely consist of case reports, we conducted a cross-sectional analysis to investigate the clinical relevance of BRASH-Syndrome in the emergency department (ED), its real life prevalence and patient outcome. Clinical and laboratory data of patients aged ≥ 18 years admitted to the interdisciplinary ED of the Bürgerspital Solothurn between January 1st 2017 and December 31st 2018 were extracted and reviewed.

Results

A total of 65489 ED consultations were reported between January 1st 2017 and December 31st 2018. Of these, 20419 (31%) patients had measurements of serum creatinine and potassium on admission. 1690 (8.3%) cases fulfilled criteria for acute kidney injury (AKI) and 409 presented with serum potassium >5.0 mmol/l (2.0%). 213 presented with AKI and hyperkalemia simultaneously (1.04%). 43 patients with AKI and hyperkalemia were bradycardic < 60 bpm (0.21%) and 29 cases had systolic blood pressure < 90 mmHg (0.14%).

In total, 11 patients (0.05%) presented with hyperkalemia, AKI, bradycardia and systolic hypotension and among them 8 were taking AV-node blocking drugs and thus fulfilled all BRASH-criteria. All patients with BRASH-Syndrome were prescribed with beta-blockers, whereas 3 patients were additionally taking amiodaron. 5 patients (62.5%) with BRASH-Syndrome needed Intermediate or Intensive Care treatment and 2 (25%) patients died during hospitalization.

Conclusion

With a prevalence of 0.04% in a large cohort of ED patients, we found that BRASH-Syndrome remains a rare diagnosis. Clinically representing an overlap between hyperkalemia and intoxication with AV-node blockers, the initial treatment is symptomatic and therefore no different from treating other causes of bradycardic shock in combination with hyperkalemia. In view of our results, we expect no difference in patient outcome by early diagnosis of BRASH-Syndrome and consider its clinical relevance as rather insignificant.

Trial Registration / Funding Information (only) :

n/a

#23346 : Does high-fidelity training improve paediatric staff confidence level in facing emergencies better than low-fidelity training?

Authors:

Fithri Indraswari (1), Thomas Beattie (2)

1. , University of Edinburgh, Kuenzell, Germany

2. Co-director Msc Paediatric Emergency Medicine, University of Edinburgh, Edinburgh, United Kingdom

Keywords: simulation training, medical education, paediatric emergency medicine,

Abstract :

Background: Simulation has become an essential part of experiential learning in both pre-clinic and clinical training. Due to different degrees of realism and technical features, simulators can be categorized into high-fidelity (HFS), medium-fidelity (MFS) and low fidelity (LFS) simulators. Whether a HFS leads to a higher improvement in trainees' confidence in facing emergencies is debatable, and there are few data on the effects of simulators' fidelity on participants' confidence level. This paper aims to compare the effectiveness of HFS and LFS in improving paediatric staff confidence level in facing paediatric emergencies.

Method: A comparative study was conducted in a paediatric department of a teaching hospital. Medical staff were randomly allocated to participate in either a HFS or a LFS training session between December 2018 and April 2019. Anonymous questionnaires completed before and after simulation training asked participants to rate their perceived ability and confidence in facing paediatric emergencies on a scale from 1–5, where 1 is a higher confidence

Main Outcome Measure: Changes in staff confidence level after HFS and LFS training.

Result: 60 participants (LFS n=31; HFS n=29) were involved. There was no significant difference in the mean pre-test scores for confidence level (2.8 +/- 0.8 and 3.0 +/- 0.6 for HFS and LFS respectively; $t(58)=0.8$, $p=0.5$). The mean score of post-training confidence level showed a change of values in both group, (LFS 2.0, SD = 0.4; HFS 2.2, SD = 0.8; $p=0.4$). Mean change in confidence scores was 0.96 +/- 0.6 for LFS and 0.67 +/- 0.6 for HFS. One-way ANOVA demonstrated that there is no significant difference in changes of confidence level before and after training in both groups while adjusting to the type of training ($F(1.58) = 3.26$; $p = .08$, $\eta^2 = .05$).

Discussion: This study involved a small number of participants. It is also from a single centre. It does show definite benefits from both HFS and LFS training. However as both methods demonstrated positive change LFS is a viable alternative in low-resource areas.

Conclusion: The result showed that the participants of both simulation groups gain overall confidence. A larger multicentre study might demonstrate different benefits.

#23347 : Acute liver failure: a case report

Authors:

Deima Eitmontaitė (1), Pranas Šerpytis (2)

1. , Vilnius, Lithuania

2. , none, Vilnius, Lithuania

Keywords: acute liver failure, acetaminophen, nac**Abstract :**

A variety of reasons can cause abdominal pain and vomiting. What medicine is the most common to cause liver damage and the aforementioned symptoms?

Case report: A 20-year-old female was brought to the Emergency department, complaining of abdominal pain, nausea and vomiting. The pain began 3 days ago soon followed by nausea and vomiting more than 10 times. As the pain increased, and upon the patient seeing what she thought was some blood in the vomit, the patient decided to seek medical help. The patient mentioned she had consumed some dairy products and fried pork, day before the symptoms started. There was no previous history of gastrointestinal or any other chronic diseases, surgical treatment or known allergies. Upon physical examination the patient presented with no fever, pale, clammy skin, mild tachycardia (102 bpm), right upper quadrant abdominal pain, with no signs of peritonitis, or enlarged liver, no melena was observed. An infectious cause, or acute gastritis were considered primarily. Also, Mallory-Weiss, or a peptic ulcer bleed as possible complications. Antiemetics and fluids were administered. Nausea and vomiting subsided consequently; abdominal pain had not decreased. Abdominal ultrasound appeared normal. EGD was ordered as well. Complete blood count was normal, with no indication of infection. CRP - 12.3 mg/l, electrolyte, glucose, urea and creatinine levels were within the normal range. ALT - 6036 U/l, AST - >7000 U/l, bilirubin - 66.3 umol/l, GGT - 21 U/l, AP - 73 U/l. APTT - 43 s, PT/INR - 1,98. Upon receiving the blood panel, acetaminophen poisoning came up as a possible reason, and after the patient was repeatedly asked if they had consumed any pain medications, she admitted to have taken more than 30 tablets of acetaminophen with a can of cider as a suicide attempt. The dose of acetaminophen was assumed to be 15 to 30 grams, and blood acetaminophen was measured to be 2.3 mg/l. 21 g of intravenous N-acetylcysteine was administered during the first 21 hours and the patient was admitted to the intensive care unit. The patient was transferred to a psychiatric unit on day 7, after blood tests revealed her PT/INR had lessened to 1,03, AST 101 U/l, ALT - 1211 U/l, no jaundice developed and abdominal pain had subsided. The patient was discharged at day 10 with a referral to an out-patient counseling, with blood PT/INR 1,02, AST - 35 U/l, ALT - 311 U/l.

Conclusion: Even though acetaminophen poisoning is usually unintentional and chronic, a physician should never forget acute acetaminophen poisoning as one of the causes for acute liver dysfunction. Most patients can recover without any chronic liver damage if treatment is started promptly.

#23350 : Acute coronary syndrome without coronary alterations

Authors:

Ana Ramos Rodríguez (1), Muñoz San José Juan Carlos (2), Héctor García Pardo (2)

1. Emergencies, Hospital Universitario Río Hortega, Valladolid, Spain
2. Cardiology, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: takotsubo syndrome, cardiac MRI, acute coronary syndrome

MRI scans

Patient images are involved and I have adequate permission to use them

Abstract :

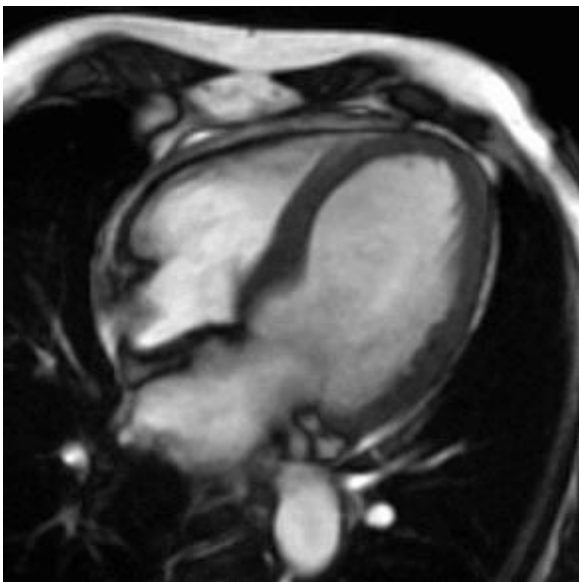
51-year-old woman. Hyperthyroidism under treatment, no other personal or family history of interest or toxic habits. Appendectomy. She went to the hospital emergency department for sudden onset epigastric pain radiating to the jaw and shortness of breath not related to physical exertion. No accompanying vegetative courtship. Refers dizziness and palpitations for days that had been related to work stress.

Description of the relevant abnormalities

On arrival: Heart rate: 133 beats/minute. Respiratory rate: 21 breaths/minute. Oxygen saturation 97%. Blood pressure: 127/84. Tachypneic, skin pallor. Auscultation cardiopulmonary: rhythmic and tachycardic without murmurs or extrasystoles. Vesicular murmur preserved. Electrocardiogram: sinus rhythm 121 beats/minute, ST elevation in V3-V5 and negative T waves in the same. Troponin I series: negative. Coronariography: no alterations. Final diagnosis: Tako-tsubo syndrome.

Why this image is clinically or educationally relevant?

Long-Axis cardiac magnetic resonance (four chambers), Cine Steady-State Free Precession, with high sensitivity detecting abnormalities in the myocardium after suspicion of an acute coronary syndrome with normal coronaries. Basal and mid-segment dyskinesia/kinesia, apical hypercontractility and ventricular thickening at the expense of the left ventricle are observed. Absence of late realization with gadolinium administration.



#23352 : Emergency Department outcome prediction for the frail older adults with NEWS and triage scores**Authors:**

Kemp Kirsi (1), Janne Alakare (1), Veli-Pekka Harjola (1), Timo Strandberg (2), Jukka Tolonen (1), Lasse Lehtonen (3), Maaret Castren (1)

1. Department of Emergency Medicine and Services, Helsinki University Hospital, and Emergency Medicine, Helsinki University, HUCH, Helsinki, Finland

2. University of Helsinki, Clinicum and Department of Medicine, Helsinki University Hospital, HUCH, Helsinki, Finland

3. Department of Public Health, University of Helsinki, HUCH, Helsinki, Finland

Keywords: Triage, Geriatric, Emergency Department, Early warning score, Frailty, Mortality,

Abstract :**Background**

Aim of triage is to recognize critically ill patients and to allocate resources according to their needs. There is no strong evidence for any of the current triage instruments, and their performance is even weaker in older adults, whose vital signs are less reliable due to chronic diseases and polypharmacy. Here we evaluated the predictive value of NEWS score and a 3-level triage instrument for ED outcomes among frail older adults.

Methods

This prospective, observational study was performed in the Emergency Department (ED) of a large regional hospital (Jorvi) during 6 months in 2019. Inclusion criteria were: 1) resident of the municipalities in the hospital district, 2) age ≥ 75 , 3) nurse-assessed Clinical Frailty Scale (CFS) >3 . We analyzed predictive values of NEWS score and the three-level triage scale for the primary outcome (30-day mortality), and secondary outcomes (hospital admission, HDU/ICU admission, number of 72-hour and 30-day revisits, and ED length of stay [LOS]). Descriptive statistics and area under the curve (AUC) with 95% confidence interval (CI) are reported.

Results

A total of 1716 ED visits of 1304 eligible patients (61.1% women) were included in the study. Median for age, CFS, LOS and NEWS were 85 years, 6.0 points, 6.2 hours and 1.0 points, respectively. 30-day mortality was 96/1304 (7.4%). On triage, 69 (4%), 356 (21%) and 1278 (75%) of patients were assessed as red, yellow and green, respectively (data missing for 13 visits). There were 1103 admissions (64%), of them 31 to an HDU facility, none to ICU.

With NEWS score and triage score, AUCs for 30-day mortality prediction were 0.70 (0.77-0.85) and 0.622 (0.56-0.69); for hospital admission prediction 0.63 (0.60-0.66) and 0.56 (0.53-0.59), and for HDU admission 0.74 (0.64-0.5) and 0.80 (0.70-0.90), respectively.

Mean LOSs were 4.8 h (95% CI 4.2-5.5), 8.45 h (7.8-9.1) and 8.8 h (8.5-9.2) for the red, yellow and green groups, respectively. The difference between the red and yellow patient groups was significant ($p < 0.001$) but nonsignificant between yellow and green groups ($p = 0.59$).

There were 1406 visits with a NEWS score <5 , mean LOS for this group was 8.7 h (95% CI 8.3-9.0). 148 and 157 patients had NEWS scores of 5-6 and 7-15, their mean LOSs were 8.6 h (7.6-9.6) and 7.5 h (6.6-8.4), respectively ($p = 0.10$). NEWS score was not recorded for 5 visits.

There were 48 and 351 revisits within 72 hours and 30 days, respectively, after the index visit. With NEWS score AUCs for 72-hour and 30-day revisit prediction were 0.51 (95% CI 0.47-0.54) and 0.53 (0.49-0.56), respectively; with triage score 0.50 (0.47-0.54) and 0.51 (0.48-0.54), respectively.

Conclusions

NEWS score and a local 3-level triage are statistically significant in predicting 30-day mortality, and HDU admission but not ED LOS or revisit rates for frail older adults. NEWS score also seems to predict hospital admission. However, accuracy defined by AUC for

mortality and hospital admissions are poor or modest for both predictors. This supports previous findings that more robust risk prediction models are needed for this patient population.

#23353 : Prehospital accuracy of pelvic ring fracture assessment and the application of non-invasive pelvic binder devices, a retrospective cohort study**Authors:**

Vicky Goldfinger (1), Mathijs Carvalho Mota (2), Robin Lokerman (3), Maartje Terra (4), Kaoutar Azijli (5), Patrick Schober (6), Marcel de Leeuw (6), Mark van Heijl (3), Frank Bloemers (7), Georgios Giannakopoulos (4)

1. Emergency Medicine, VUMC, Amsterdam, The Netherlands
2. medical student, VUMC, amsterdam, The Netherlands
3. trauma surgery, UMC Utrecht , utrecht, The Netherlands
4. HEMS/trauma surgery, VUMC, amsterdam, The Netherlands
5. Emergency Medicine, VUMC, amsterdam, The Netherlands
6. HEMS/ Anesthesiologist, VUMC, amsterdam, The Netherlands
7. trauma surgery, VUMC, amsterdam, The Netherlands

Keywords: prehospital, EMS, pelvic fracture, trauma

Abstract :**Background:**

Trauma leading to destabilisation of the pelvic ring is associated with high mortality rates due to massive haemorrhage. Correct prehospital management and treatment of patients with a pelvic ring fracture starts with the use of a non-invasive pelvic binder device (NIPBD), in order to prevent exsanguination. Pelvic fractures are often not recognized during prehospital assessment. The aim of this study is to evaluate the diagnostic accuracy of Emergency Medical Services (EMS) clinical judgement for the on-scene identification of pelvic ring fractures and NIPBD application rate.

Methods:

We performed a retrospective cohort study including all patients transported by EMS to our level one trauma centre with a pelvic fracture (2015-2018). All patients with a pelvic ring injury were included and radiologically categorized using the Young & Burgess classification system. Lateral compression type II/III, anterior-posterior and vertical shear were considered as unstable pelvic injuries. Injury Severity Scores (ISS) were calculated. EMS charts and in-hospital patient records were evaluated to determine the prehospital clinical suspicion of a pelvic injury and application of an NIPBD.

Results

In total, 233 patients with a pelvic fracture were identified of which 145 sustained a pelvic ring injury (62%). Lateral compression type 1 was the most common ring injury (58%). Unstable ring injuries were classified in 61 patients (42%). An ISS ≥ 16 was calculated in 79 patients with a ring injury (54%). In 36%, the EMS professional suspected a pelvic ring fracture (95% CI: 0.28-0.44). Moreover, in 51% of the patients with an unstable pelvic injury EMS applied an NIPBD (95% CI: 0.38-0.64).

Conclusion

The prehospital diagnostic accuracy for a pelvic ring fracture and overall NIPBD application rate is

low. EMS suspected less than 40% of all cases and did not apply an NIPBD in half of the unstable pelvic injuries. Recognizing a pelvic ring injury in the prehospital setting continues to be challenging and could potentially risk optimal patient care. We advise further education in the routine use of an NIPBD in any patient with either a suspect clinical setting or any relevant mechanism of injury.

#23354 : the role of Axl-HIF-1 α -PD-L1 signaling axis in sepsis induced metabolic reprogramming and immune dysfunction

Authors:

LU Zhong-qiu (1), ZHAO Guang-ju (1), Lin Miaotong (2)

1. Emergency medicine, The First Affiliated Hospital of Wenzhou Medical University , Wenzhou, China

2. , Wenzhou medical university, wenzhou, China

Keywords: sepsis, immune dysfunction, metabolic, macrophage

Abstract :

Axl plays an important role in regulating various immune response, this study aims to explore the roles of it in sepsis induced immune dysfunction and the potential mechanisms. Here, Axl was found to be increased in macrophages from septic mice. Pre-injection of TP-0903 (Axl inhibitor) increased the levels of PD-L1 in peritoneal macrophages, inhibited the activation of CD4⁺T cells, and increased the mortality of sepsis mice. Using an in vitro model, the mechanism of Axl in sepsis-induced macrophage immune response were further investigated. The basal glucose metabolism rate, maximum glycolysis rate and glycolytic reserve capacity were significantly decreased after TP-0903 treatment, and the levels of HIF-1 α were increased. The effects of TP-0903 on PDL1 expression and metabolic reprogramming of macrophages were attenuated after treating with the inhibitor of HIF-1 α . In conclusion, Axl-HIF-1 α -PD-L1 plays an important role in sepsis induced metabolic reprogramming and immune dysfunction.

Trial Registration / Funding Information (only) :

This work was supported, in part, by grants from the National Natural Science Foundation of China (81871583, 81571937, 81772112).

#23356 : Left-sided appendicitis - a clinical challenge

Authors:

Tessa Tillgren (1), Mika Vallström (1)

1. Radiology department, Central Finland Central Hospital, Jyväskylä, Finland

Keywords: acute abdomen, appendicitis, intestinal malrotation, computed tomography

Abstract :

A 62-year-old woman with a medical history of well controlled hypertension and asthma had suffered from episodic left abdominal pain frequently over the last twenty years. Her symptoms were always alike, and typical to diverticulitis. Hence, she had been treated repeatedly but successfully with peroral antibiotics and always as an outpatient. In some instances, the pain had resolved without intervention. She had gone through colonoscopy twice, but neither diverticulosis nor other obvious pathology was found.

On April 12th, she presented her GP with typical left-sided abdominal pain as many times before. Peroral cephalexin 500mg and metronidazole 400mg every 8 hours were initiated to treat assumed diverticulitis. Two days later, on April 14th she was referred to our ED by a local GP with non-responding and intensifying abdominal pain. She was also febrile. The patient's physical exam revealed local pain in the left mid abdomen and rebound tenderness. There were no signs of peritonitis. At the time, laboratory tests showed elevated WBC ($10.5 \times 10^9/L$) and C reactive protein (303mg/L). Temperature 38.5C was measured, but her vital signs were otherwise normal.

Due to the recurring history of similar symptoms, a CT scan of the abdomen with IV contrast was performed to confirm complicated diverticulitis. Surprisingly, the scan showed an intestinal anomaly of left-sided colon including the caecum and the appendix in the left upper quadrant, indicating congenital intestinal malrotation. Appendix was swollen, thickened (15mm in caliber) and there were two faecoliths in the lumen. Stranding of the adjacent fat was seen around the appendix. There was also a small defect in the wall of the appendix suspicious to perforation, but no pneumoperitoneum was evident.

The patient was commenced on IV antibiotics for suspected complicated appendicitis. After surgical consultation, she went to laparoscopic appendectomy and did well postoperatively. The inflamed appendix was not perforated.

Even if the symptoms of appendicitis commonly include right lower quadrant abdominal pain, the location of appendix varies, and the inflammation may be felt as left abdominal pain - even without anomaly. In our case, appendicitis was never suspected prior to the definitive CT scan. Proper imaging eventually pointed towards the confounding diagnosis. There was no evidence of diverticulosis in repeated colonoscopy. However, the false diagnosis recurred once it was written in patient's medical record years before, misleading a clinician after another, and delayed the correct diagnosis.

Intestinal malrotation is a rare condition caused by an abnormal rotation of fetal intestines. Most often, it is diagnosed during infancy, but some cases are diagnosed not until in adulthood. Some cases are never reported as they remain asymptomatic. Recurrent and nonspecific bowel symptoms are common in malrotation (1). Fortunately, our patient had never presented with more severe symptoms associated with intestinal malrotation, such as volvulus, acute bowel ischemia or bowel obstruction.

1. Martin RJ, Fanaroff AA; Fanaroff and Martin's Neonatal-Perinatal Medicine; 11th Edition; Elsevier (2019); ISBN:9780323567114

The patient has given consent to have following details submitted. Anonymity has been ensured.

Attachment: F_Vatsa ja lantio_20200421_161354.jpg

#23362 : Using pathway mapping to measure inefficiency and variation in diagnostic specimen collection in a European Emergency Department**Authors:**

Juan González Del Castillo (1), María Cruz Cárdenas Fernández (2), Miguel García Briñon (1), Francisco Duque Duque (2), Antonio Gonzalez Langa (2), Adam Stretton (3)

1. Emergency, Hospital Clínico San Carlos, Madrid, Spain
2. Laboratory, Hospital Clínico San Carlos, Madrid, Spain
3. Becton, Dickinson and Company,, Becton, Dickinson and Company,, Eysins, Switzerland

Keywords: Pathway, overcrowd

Abstract :Background

Emergency departments (EDs) are busy, complex environments where effective utilisation of limited resources is required to ensure that patients' needs are met quickly and effectively. Variability in patient demand is constant and can combine with variation in ED processes to reduce efficiency and hence lead to increased length of stay within the ED.

Methods and materials

At the Hospital Clinico Universitario San Carlos, (Madrid, Spain) patient pathway mapping and value stream mapping was used to assess the timing of the venous blood specimen collection process upon efficiency. Timestamp data (n=192) were collected from ED Ambulatory (AMB) and ED Acute (ACU) clinical areas during morning and afternoons across a week period. Process times were calculated from the start and endpoints of the different stages. Variability was assessed using quartile information from whisker box plots (values in minutes).

Results

Time taken to collect blood specimens was variable. In general, there was significantly reduced time taken to obtain a blood specimen in AMB, compared to ACU ($p=1.053 \times 10^{-7}$, AMB mean 4.7 minutes (min), ACU mean 8.3 min). Transport of specimens to the laboratory was via pneumatic system (PS). Samples were sent singly or as a batch. Batching of specimens post-collection, pre-PS, extends the overall diagnostic time but may be driven by external factors (e.g. no pod available when the sample was taken to the PS). Batching of specimens did not generally occur in the ACU but significant batching was observed in AMB, especially during busier periods (AMB mean batch time 7.0 min, ACU 2.2 min). Transit time in the PS showed wide variation in both AMB and ACU. The variation did not appear to be associated with time of day or ED area, but varied from 2-48 min (median 7.5 min). Overall, the bleed and transport process varied widely (7-73 min total time observed), much of the variation derived from non-value-added activities (pod batching and stationary/diverted time in the PS).

Discussion

In conclusion, patient pathway mapping and value stream mapping are useful techniques to discover and measure inefficiency and unwanted variation within emergency care departments. Analysis of the data can be used to define improvements to processes or pathways, improving patient care.

Trial Registration / Funding Information (only) :

Study support by Becton, Dickinson and Company. No author has received a fee for participating in the study.

#23368 : Extreme hypoxemia due to methemoglobinemia after a suicidal attempt with 'poppers'**Authors:**

Ineke Plaetinck (1), Els Blancke (1), Ives Hubloue (1)

1. Emergency Medicine, VUB, Brussels, Belgium

Keywords: methemoglobin, hypoxemia

Abstract :

This case is about a 31-year old woman presenting with severe hypoxemia after a suicidal attempt.

She was found somnolent at home. On arrival of the prehospital Emergency Medical Services (EMS) she was still reactive to pain. It was unclear which drugs the patient had taken. The prehospital EMS noted a Glasgow Coma Scale (GCS) of 7/15. She was hypoxic with an oxygen saturation of 86 percent (%) on pulse oximetry without oxygen supply, and hypotensive (71/34 mmHg). A fluid bolus of 500ml crystalloids was given and she was transported to the hospital where she was immediately intubated and ventilated (after induction with 3mg midazolam, 50mg ketamine and 50mg rocuronium).

Volume controlled ventilation was initiated (respiratory rate: 15/min, tidal volume: 450ml (9 ml/kg), fraction of inspired oxygen (fIO₂) 100% and positive end-expiratory pressure (PEEP) 8 mmHg). There were no signs of lung injury on X-ray but the oxygen saturation remained low (85%).

She presented an inferolateral ischemia on her electrocardiogram and hypotension persisted despite a second fluid bolus, so epinephrin was administered to maintain blood pressure.

When we took an arterial blood sample we noted a dark brownish to blue color. The arterial blood gas showed the following values: pH of 7.459, PO₂ of 395mmHg, pCO₂ of 35.3mmHg, fraction of oxygenated hemoglobin (FO₂Hb) of 34% and fraction of methemoglobin (FMetHb) of 64.5 %.

Methemoglobin is an altered state of hemoglobin in which the heme iron is oxidized from the ferrous (Fe²⁺) to the ferric (Fe³⁺) state. The ferric heme of methemoglobin binds O₂ irreversibly. People with acute toxic methemoglobinemia can die from severe hypoxia despite administration of supplemental oxygen.

Methemoglobine can be caused by several substances, medications or poisonings. In this case we suspected an intoxication with 'poppers'. This is a recreational drug that contain amyl nitrite or isobutyl nitrite. The nitrite can oxidize hemoglobin to methemoglobin and cause methemoglobinemia.

We administered methylene blue, 2 mg/kg, intravenously. Methylene blue is the treatment of choice in acute methemoglobinemia, it is given over 5 minutes. It hastens the conversion of methemoglobin to hemoglobin again. Onset of action is 30 to 60 minutes. Dose may be repeated up to 8mg/kg in case the methemoglobin level remains high.

In this case FO₂Hb on the arterial blood sample turned to 99% and FMetHb to 1% after one hour of the 2mg/kg administration of methylene blue.

Since administration of methylene blue the patient was hemodynamically stable. Sedation could be phased out and she could be extubated the next day.

We learned that high levels of methemoglobin can cause severe hypoxemia. Moreover bedside pulse oximetry is inaccurate and unreliable in patients with high levels of methemoglobin, it gives misleading falsely high results of oxygen saturation (around 85%), even when FO₂Hb is very low, like 34% in this case.

#23370 : About a case: Hyperosmolar hyperglycemia

Authors:

Rubén Pérez García (1), Ana Ramos Rodríguez (1), Beatriz Martín Pérez (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: coma hiperosmolar, hernia cerebral, hiperglucemia

Abstract :

Breves detalles clínicos: Mujer de 86 años, institucionalizada, independiente para las actividades de la vida diaria. Antecedentes de carcinoma medular de tiroides, presión arterial alta, artroplastia de rodilla derecha. Tratamiento real con prednisona 30mg cada 12 horas los últimos 6 meses, bemiparina 3500U cada 24, deltius, ranitidina horas y enalapril. Se refirió al Departamento de Emergencias para el mioclonos en la parte superior de la pierna derecha con disminución del nivel de después de las horas de evolución. Se sospecha una crisis parcial. Se administra clonazepam intravenoso. Sonolent, Glasgow 9, anamnesis adecuada y examen físico limitado no es posible debido a la condición y gravedad del paciente. No hay deshidratación de la piel o las membranas mucosas. Bradipneic. Auscultación cardiopulmonar: bradicárdico sinusal. Nada de murmullos. Hipofonía de soplo vesicular.

Tocada profunda del cerebro: edema. Análisis de sangre: glucemia capilar 1215mg/dl, osmolaridad plasmática 367 mOsm/kg. Orina sistemática: glicosuria, ketonuria. ECG: ritmo sinusal a 52 latidos/minuto. Se inicia la insulina). Ingresada a Medicina Interna donde murió dos días después.

Elementos engañosos: Los miembros de la familia son cuestionados: no hay datos sobre la diabetes mellitus, clínico ni clínicos típicos. Sin desconstar. Análisis de sangre anterior una semana antes: cifras de glucosa en sangre de 123mg/dl. Clínica neurológica. Ausencia de parámetros bioquímicos de infección.

Detalles útiles: Criterios diagnósticos de la Asociación Americana de la Diabetes: glucosa en sangre por encima de 600mg/dl, osmolaridad plasmática por encima de 320 mOsm/kg y ausencia de cetoacidosis significativa. CT-cerebro: edema, posible responsable de la clínica neurológica.

Diagnóstico diferencial y real: Clínica neurológica: Estado epiléptico, tumor o proceso metastásico, evento cerebral isquémico o hemorrágico, traumatismo craneal sin visto. Hiperglucemia hiperosmolar: Debut diabético. Pobre control diabético. Abuso/intoxicación de diuréticos o corticoides. Infección intercurrente. Thyrotoxicosis. Diagnóstico final: coma hiperosmolar con hernia cerebral secundaria.

¿Cuál es la educativa y/o clínica del caso?

Una de las peores complicaciones de la hiperglucemia hiperosmolar es el edema cerebral, que causa un rápido deterioro del estado general y puede conducir a complicaciones, cambios pupilares, bradicardia, hernia del tallo cerebral y paro respiratorio. El estado de hiperosmolaridad no se requiere la formación de edema cerebral, causando la muerte en casos, haciendo que la

situación dependa del tiempo. Por lo tanto, es importante tener siempre en cuenta las manifestaciones clínicas producidas por la hiperglucemia, la determinación de la glucemia capilar a su llegada a los Servicios de Urgencias del Hospital en pacientes con Diabetes Mellitus, pero aquellos en que presente síntomas compatibles con el aumento o disminución de la glucosa en sangre.

#23373 : Simulation-based trial of medical crisis checklists in the emergency department**Authors:**

Eric Dryver (1), Jakob Lundager Forberg (2), Caroline Hård af Segerstad (3), William Dupont (4), Anders Bergenfelz (5), Ulf Ekelund (1)

1. Department of Internal and Emergency Medicine, Skåne University Hospital at Lund, Lund, Sweden
2. Department of Emergency Medicine, Helsingborg Hospital, Helsingborg, Sweden
3. Department of Emergency Medicine, Ystad Hospital, Ystad, Sweden
4. Department of Biostatistics, Vanderbilt University Medical Center, Nashville, USA
5. Department of Clinical Sciences at Lund (IKVL), Lund University, Lund, Sweden

Keywords: Checklist, Emergency Medicine, Simulation, Resuscitation

Abstract :

BACKGROUND

Studies carried out in simulated environments suggest that checklists improve the management of surgical crises and crises in the intensive care setting. The objective of the current study was to evaluate whether checklists improve the management of medical crises simulated in actual emergency departments.

METHODS

Checklists were developed for the management of the following eight crises: anaphylactic shock, life-threatening asthma exacerbation, hemorrhagic shock due to upper gastrointestinal bleeding, septic shock, calcium channel blocker poisoning, tricyclic antidepressant poisoning, status epilepticus and increased intracranial pressure. Each checklist outlined interventions to be considered based on current authoritative sources and consensus from four specialists in Emergency Medicine. Scenarios were developed for each crisis based on real cases. Each scenario featured seven to ten emergency interventions. Simulations were run in the resuscitation rooms of four emergency departments (ED) in Southern Sweden and performed by resuscitation teams during their normal clinical shifts. Scenarios and the order of access to the checklists were randomly assigned. Team-members were explicitly allowed to use local cognitive aids (e.g. local guidelines, pocketbooks, internet). Checklists were displayed on a large screen visible to all team members throughout the simulation. All simulations were recorded using video and independently reviewed by two investigators. The main outcome measure was the percentage of performed emergency interventions analyzed using mixed-effects proportional odds regression. Personnel who participated in simulations with checklist access filled out a questionnaire regarding the usability of the checklist.

RESULTS

A total of 31 physicians, 54 nurses, 37 nursing assistants and 16 medical secretaries composing 41 resuscitation teams participated in the study. Each resuscitation team consisted of 4 or 5 personnel (1-2 physicians, 2-3 nurses or nursing assistants and 0-1 medical secretaries). Each scenario was performed twice (once with and once without checklist access) in each ED. In each of three EDs, 4 additional simulations were performed, resulting in a total of 76 simulations (38 with and 38 without checklist access) with a total of 631 emergency interventions. Thirty-five teams completed two different scenarios, one with and one without checklist access. Six teams could only perform one scenario due to actual emergencies. Local cognitive aids were used during 68% of simulations without checklist access. The median percentage of performed emergency interventions was 38.8% (95% CI 33% – 44%) without checklist access and 85.7% (95% CI 81% – 90%) with checklist access ($p = 5.3 \times 10^{-10}$). The benefit of checklist access was similar in the four EDs and independent of physician experience, type of scenario and use of local cognitive aids. On a Likert scale of 1 to 6, 94% of all participants agreed (gave a score of 5 or 6) with the statement "I would use the checklist if I got a similar case in reality." Profession and type of scenario had no significant effect on the responses to the questionnaire.

CONCLUSION

Checklists markedly improved local ED resuscitation teams' management of medical crises simulated in-situ, and most personnel expressed that they would use the checklists if they had similar cases in reality.

Trial Registration / Funding Information (only) :

Regional research grants: REGSKANE-814271 and REGSKANE-627931

#23375 : Drug facilitated Coronary Acute Syndrome

Authors:

Natalia Sánchez Prida (1), Laura Castro Reyes (2), Maria Clemente Murcia (2), Gema Rodrigo Borja (1)

1. Emergency Room, Hospital 12 de Octubre, Madrid, Spain
2. Emergency Room, 12 de Octubre Hospital, Madrid, Spain

Keywords: coronary vasospasm, infarction, catecholamines

Abstract :

We present the case of a 32 year old chinese woman with no remarkable medical history and no toxic habits either who came to the Emergency Room brought by the Police. She herself called for the Police from her house giving though no explanation for it. She was apparently found on the only company of her Little son under psychomotor agitation state.

Anamnesis was not able to be done the very first moment of her admission due to the lack of knowledge of the Spanish language.

EXPLORATION

Blood pressure: 172/95, Cardiac Rate: 123 rpm, Oxygen saturation: 95%, Temperature: 38,2 °C

Looks pale and diaforetic but with normal distal perfusion.

Psychomotor agitation state. Spontaneous cry, showing herself suspicious.

She had no skin lesions nor marks.

The rest of the examination did not have abnormal findings.

DIAGNOSTIC TESTING

Chest radiography with no alterations

EKG: synusal rhythm, 127 rpm. 1 mm ST depression in V3-V4-V5 with negative T waves in the inferior leads.

Blood test: CK 456 U/L, troponin hs-TNT 852 ng/L (threshold of 14 ng/L), CRP 5,3 mg/dl, leukocytes 13.200 x1000/µl. Rest with no alterations

Urine test: positive for cocaine and amphetamines

EVOLUTION

A transthoracic echocardiogram was made showing innspecific alterations in contractility in the inferior wall.

She was given antihypertensives (amlodipine) and antipyretic getting to control de blood preassure but not the temperature so a central origen of the last one was assumed.

Since a drug intoxication was suspected, we administered diazepam as treatment of both the cocain intoxication and the psychomotor agitation.

Two hours later, she remained calm and stable but still feverishness. The troponin value reached a plateau value.

A friend of the patients came after some hours. She found her orientated in the three spheres but making reiterative questions. She finally confessed that her husband might have placed something in her wine in order to makeher confess an infidelity.

Even if she was asymptomatic during hours, she had a high blood preassure peak again so she was admited in the Intensive Care Unit of Cardiology.

Regarding the legal issues, an statement was sent to the judge on guard in order to take samples under chain of custody.

In the cardiology department they were done image tests, a catheterism (that showed no thrombotic occlusion) and also lab exams to rule out infectious and inflammatory diseases.

CONCLUSIONS

We faced then a NSTEMI due to the use of cocaine for a drug facilitated assault. The mechanism why the cocaine affects the cardiovascular system is mixed: it produces a sodium channels blockade and so instability of the myocardial membrane, also produces liberation of catecholamines and a blockade of their reuptake leading to a higher oxygen consumption. A prothrombotic state is added if the cocaine is consumed crhonicly since it causes endothelial and platelet dysfunction with a subsequent coronary spasm.

The specific treatment consists on antiplatelets therapy during 6 months and benzodiazepine for the acute cocaine intoxication for it decreases liberation of catecholamines, the blood pressure and the heart rate.

#23379 : A case of late-diagnosed congenital hip dislocation**Authors:**

Gaia Bavestrello Piccini (1), Jean-Christophe Cavenaile (1)

1. Emergency Department, CHU Brugmann, Brussels, Belgium

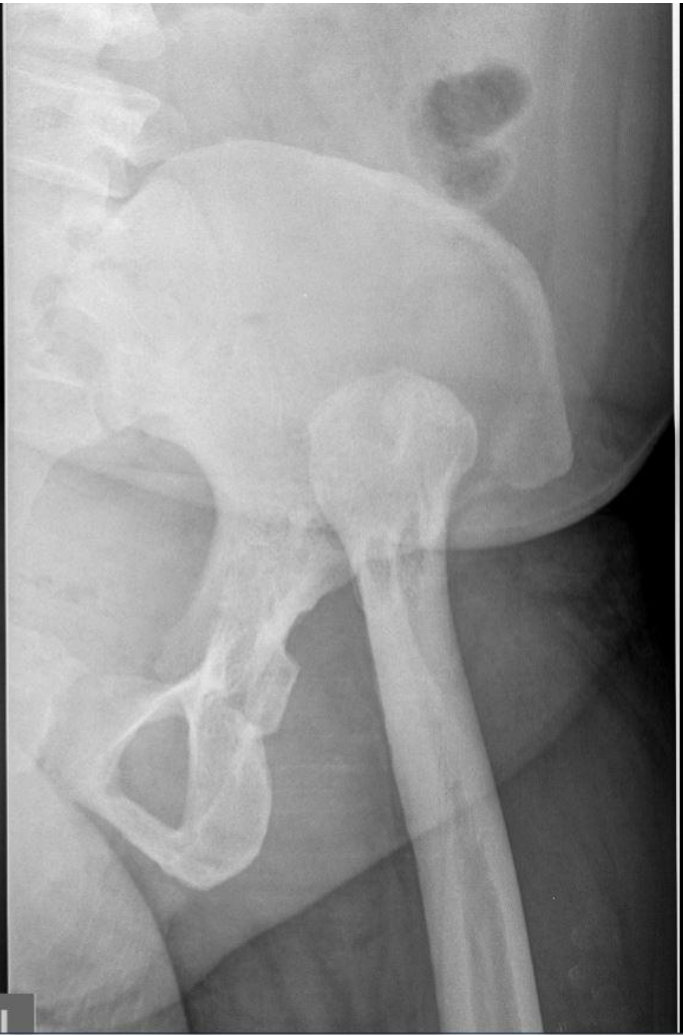
Keywords: hip dislocation, hip pain, orthopedics, x-ray

Plain films

Patient images are involved and I have adequate permission to use them

Abstract :

A 30 years old patient presented to our Emergency Department for chronic left hip pain. The patient described a problem of limping which was persistent since childhood, and which had been attributed to an injection having caused a neuromuscular lesion. The clinical examination showed a depression at the level of the left buttock, with a loss of substance, and pain at the mobilisation of the left hip. The X-ray film showed an hypoplasia of the left pelvis, a disappearance of the femoral head, and a complete hip dislocation with dysplasia of the acetabular rim. The patient has been subsequently referred to the Orthopedics department of our Hospital. A dislocated hip is not always apparent during the initial newborn screening examination, and a followup is normally necessary when a hip dislocation is suspected. With early detection and treatment, most of the affected children will develop functionally and radiologically normal hips, however it is still possible to encounter congenital hip dislocations that have not been correctly diagnosed during childhood.



#23380 : An unexpected complication in the treatment of epicondylitis

Authors:

Gaia Bavestrello Piccini (1), Jean-Christophe Cavenaile (1)

1. Emergency Department, CHU Brugmann, Brussels, Belgium

Keywords: epicondylitis, tennis elbow, NSAIDs, Ketoprofen, side effect

Clinical images of patients (suitably anonymised)

Patient images are involved and I have adequate permission to use them

Abstract :

A 47 years old patient presented to our Emergency Department during the month of August for a second degree burn at the level of her right arm and elbow, associated to a painful swelling of the right hand.

The patient had been treating an epicondylitis with topical application of Ketoprofen 2.5% during 7 days. The last 2 days of treatment, the patient noticed paresthesias at the level of the treated region.

Subsequently, she reported the appearance of an erythema and blisters at the level of her arm and elbow.

The patient has been treated with cerium nitrate-silver sulphadiazine locally once per day, and a prophylactic antibiotherapy with Clindamycin 600mg 3 times per day.

The patient has been subsequently referred to the Plastic Surgery department of our Hospital.

Topical NSAIDs are commonly prescribed to patients in the Emergency Department, it would however be important to remind patients that areas of skin treated with Ketoprofen 2.5% gel should not be exposed to direct sunlight, or solarium ultraviolet light, either during treatment or for two weeks following treatment discontinuation, in order to avoid phototoxicity reactions and photoallergy.



#23381 : A Case of Adult Laryngotracheobronchitis -Adult Croup, Presence of Steeple/Wine Bottle Sign**Authors:**

Muhammad Zeeshan Azhar (1), Paul Grout (2), Asish Chatterjee (1), Mohamed Shirazy (2), Raj Kondragunta (3), Julius Manoharan (1)

1. Emergency Department , University Hospitals MoreCambe Bay Trust United Kingdom, Barrow in Furness, United Kingdom
2. Emergency Department , University Hospitals MoreCambe Bay Trust United Kingdom, BarrowinFurness, United Kingdom
3. Emergency Department , University Hospitals MoreCambe Bay Trust United Kingdom, Barrow in Furness, United Kingdom

Keywords: Adult Croup, Steeple sign

Abstract :

Case presentation

A 29 years old female presented in the emergency department with one day history of increasing short of breath, difficulty in breathing, increased dust reported in house. Since last night patient complaint of increasing coughs spasms with barking element, couldn't handle at home in current situation. Used Becolomethasone inhaler (as ventolin ran out). Called ambulance ,received salbutamol with no improvement.

She has background history of asthma, on becolomethasone and Ventolin inhalers, with mitrzapine for depression.

On examination, she was sitting upright in bed, visible short of breath, using her accessory muscles, evident severe barking cough with bronchospasms. Hoarse voice noted no evident stridor on presentation.

Looks tired and lethargic, maintaining her oxygen saturation of 95% on RA. Pulse 105, BP 135/70.Temp 36C. Chest fine expiratory wheeze. No visible swelling of Uvula or visible pharynx noted. Rest systems were unremarkable

ABG on Room air showed PO₂ of 13, PCO₂ was 3.68 and Ph was 7.48, lactate was 1.2. All routine bloods including inflammatory markers sent. Chest and neck x-ray requested to see any inflammatory changes and to see supraglottic tracheal narrowing.(steeple sign).

Patient was treated initially with routine nebulisers, steroids and oxygen. Showed no improvement. Then treated with Epinephrine nebuliser and humidified oxygen.(Heliox not available). Very ShortlyAfter last treatment patient showed marked improvement in her presenting symptoms, especially. Her severe bronchospasms, barking cough,and hoarse voice, improved markedly. Work of breathing (accessory muscles)has been reduced greatly. Medical, intensive care and ENT teams consulted for backup plan. Patient was very satisfied with treatment provided to her in the emergency department.

Her inflammatory makers, UE's were all within normal limits, Chest x-ray was normal and AP neck x-ray revealed "steeple or wine bottle sign" (fig¹).Para influenza A & B were both negative.

Patient was then admitted under medical team for further management and investigations.

Patient didn't require further escalation of treatment to intensive care unit, after treatment given in the emergency department. Seen by ENT consultant later (after treatment in the emergency department) for her airway assessment and it was found to have resolution of subglottic oedema which was seen earlier on AP neck x-ray. During stay in medical unit, she was on regular nebulisers, steroid, humidified oxygen and close observations. With Complete resolution of her symptoms next day, she was discharged home on steroids, her routine inhalers to continue and RAST allergen test results to follow. Further Viral screening didn't performed by medical team as it won't change the treatment.

Patient been called next day about her condition after discharge from hospital, she was feeling very good and was very happy with the treatment given to her in the emergency department.

Educational/Clinical Relevance: Croup is not common in adult age group patients. Our case will be an addition to previously reported cases of adult croup. Excellent history, examination, and differential diagnosis help us differentiate her presentation from routine asthma presentation.

Attachment: neck xray-Steeple sign.jpg

#23382 : Headache and Jaw Claudication- A Challenging Emergency Department Presentation- A Case Of Temporal Arteritis (GCA)**Authors:**

Muhammad Zeeshan Azhar (1), Asim Ijaz (2), Colin Read (2), Duncan Roche (2)

1. Emergency Department , University Hospitals MoreCambe Bay Trust United Kingdom, Barrow in Furness, United Kingdom
2. Emergency Department , University Hospitals MoreCambe Bay Trust United Kingdom, UHMBT, United Kingdom

Keywords: Jaw claudication, headache

Abstract :**Case Report:**

A case of 71 years old male who presented to the Royal Lancaster Hospital Emergency department with 6 weeks history of headache (rather scalp tenderness), 2 weeks history of jaw claudication (jaw stiffness while eating on and off), and 1 day history of right facial puffiness, pins and needles, no slurred speech, power loss or visual disturbances reported by patient on his presentation.

No background history of headaches or migraine, on Beclomethasone nasal spray.

Patient was initially treated by GP as migraine with sumatriptan with no improvement, then GP started patient on tegretol week before presentation to the emergency department(with plan to double dose next week),GP referred him to Maxfax for TMJ issue(jaw claudication.)

Patient was triaged both to emergency department as well as to Maxfax (as already referred by GP).

On examination, patient was fully conscious and oriented,(anxious for this non resolving symptoms) vitally normal, no slurred speech, no facial drop noted, tender right sided scalp, tender bilateral temporal area, right side was more tender than left. No Bell's palsy sign, mild tender both TMJ's and able to fully open mouth. Normal visual and neurological examination. Rest of the systems were unremarkable.

Depending upon patient presenting symptoms and examination in emergency department, temporal arteritis diagnosis was provisionally made.

FBC, UE, CRP ,ESR was requested, CT Brain requested to rule out central cause of patient symptoms as well as to study TMJ on Maxfax request.

Maxfax consultant team saw patient as advised analgesia, OPG and CT Brain (which was already in emergency department management plan.

Laboratory results revealed ESR OF 96, CRP OF 67.3, normal remaining labs, CT brain normal, with normal bilateral TMJ's and facial bones.

Above tests highly suspected with diagnosis of temporal arteritis, Informed to Maxfax about update of labs and CT results (agreed with diagnosis).

Case fully discussed with Emergency Medicine Consultant, who agreed with above diagnosis. Agreed plan to start patient only on high dose Prednisolone, PPI(informed patient thoroughly about high dose steroid side effects and need of this treatment) and refer patient urgently to Rheumatology outpatients for further management, investigations and follow up.

Case was further followed up with Rheumatology outpatient, where they agreed with diagnosis;and underwent further investigations, however they sent patient for ophthalmology check, which came to be normal. Patient still under

further investigations and included in national GCA research study as well, while keeping him on treatment.

Patient was contacted later ,who informed marked improvement in his previous ly presenting symptoms since started treatment in emergency department ,and was highly satisfied with management in the emergency department and later in outpatient clinic.

Clinical Relevance: Patient visiting emergency department for short time ,but appropriate differential diagnosis after taking history, examination and investigation can lead to timely and accurate diagnosis with treatment and follow up .

#23387 : Falling for you: A light hearted chronicle

Authors:

Imthiyaz Musliam Veettil Asif (1), Miguel Jose Ribeiro Da Costa (1), Fadi Ramiz Babus'Haq (1), David Shackleton (1)

1. Chelsea and Westminster Hospital NHS Foundation Trust, West Middlesex University Hospital, London, United Kingdom

Abstract :**Brief Clinical History:**

Syncope is the sudden loss of consciousness, associated with an inability to maintain postural tone, with immediate and spontaneous recovery without requiring electrical or chemical cardioversion. This framework is secondary to cerebral hypoperfusion, with a short duration (average 12 seconds). Approximately 1-2% of all Emergency Department (ED) visits occur due to a chief complaint of syncope.

Our case report focuses on three key elements, firstly on syncope scoring systems, the over-diagnoses and normalization of Vasovagal Syncope (VVS), and lastly, the importance of a second opinion and multi-disciplinary (MDT) approach.

A nineteen-year-old female patient presented to ED following an episode where she was found unconscious on the floor by her sister. She was known to have recurrent episodes of syncope of unknown aetiology in a variety of settings and has presented multiple times to our ED for the same. Initial history was indistinguishable to all previous attendances with a duo of prodromal symptoms of light-headedness and mild left-sided chest pain.

The examinations added no clear differentials, no heart murmurs/heaves/added sounds could be elicited on cardiovascular examination; all other systems were normal including neurology, respiratory, and abdominal. Multiple electrocardiograms (ECG) showed a normal sinus rhythm on three separate occasions which were identical to previous ECGs recorded in the past. A chest x-ray was found to be normal and routine bloods including full blood count, C-reactive protein, troponin, urea and electrolytes were unremarkable. The San Francisco Syncope Rule (SFSR) scored the patient's risk for a serious outcome at seven days as low risk.

Due to her repeated episodes, the patient was re-referred to cardiology outpatients as she had already been investigated by the team twice previously. On her third presentation to outpatients, a TILT test was performed which brought on an episode of syncope; it was thus decided that an implantable loop recorder (ILR) was to be inserted for further analysis. Thirty minutes post insertion of the implant; she experienced another episode where the ILR recorded asystole lasting for nine seconds.

Misleading Elements:

The patient's age, no comorbidities, a recurrent low-risk score and normal investigations including bloods and ECG's on multiple occasions.

Helpful Details:

The history of repeated episodes in a short duration of time and an MDT approach to the case.

Differential and actual diagnosis:

The differentials included arrhythmia, stenosis, hypertension, uncontrolled diabetes, dehydration and psychiatric causes. The actual diagnosis was reflex vasovagal syncope with strong cardioinhibition.

Educational/ Clinical Relevance:

Despite multiple attendances it is essential to be thorough and investigate extensively even if numerous clinics have returned negative results; a second opinion is always sensible and advisable. In ED, we have a tendency to "normalise" vasovagal syncope; it is imperative that we probe appropriately rather than miss a chance to make a difference. Clinical gestalt, especially in ED settings, should be taken into consideration, even when tried and proven scoring systems such as the SFSR and the Canadian Syncope score, which were done in retrospect, categorize

patients as low risk.

N.B: Consent taken from patient

#23388 : Could it be necrotising fasciitis? A case report of insidious “flesh-eating disease”

Authors:

Miguel Jose Ribeiro Da Costa (1), David Shackleton (1)

1. Chelsea and Westminster Hospital NHS Foundation Trust, West Middlesex University Hospital, London, United Kingdom

Abstract :

Consent obtained by patient.

Brief clinical history

A previously fit and well 55-year-old female presented to the Emergency Department with a 4-week history of lower back pain which she had been managing with bed rest. Over the past 4 days she experienced worsening left buttock pain and inflammation and was unable to sit due to pain. She reported no fever, no abdominal pain, normal bowel movements and experienced no urinary symptoms.

On examination she was afebrile, normotensive with a tachycardia of 120bpm. She appeared well and comfortable at rest with a soft and non-tender abdomen. Her left buttock was inflamed, firm and tender on palpation, with overlying ulcerative, necrotic skin. A foul odour was also noted. An initial assessment of an abscess was made, and intravenous (IV) antibiotics and fluids prescribed on presentation.

She did not respond to fluid resuscitation and her initial investigations showed a C-reactive protein (CRP) of 245.7 mg/L, White Cell Count (WCC) of $42.2 \times 10^9/L$, lactate of 2.28 mmol/L and a Haemoglobin (Hb) of 65g/L. A CT of the pelvis clarified the severity of the condition, showing a complex fistula from the rectum to the vagina and left ischioanal/anal fossa with the formation of a large poorly defined faeculent gas-containing collection/abscess which extends into the posterior compartment of the thigh with evidence of liquifying fat necrosis. A suspicion for an underlying rectal cancer with pathological presacral lymphadenopathy was also noted.

An urgent surgical review followed, and she was taken to theatre for an emergency left buttocks debridement and washout. Biopsies were taken intra-operatively and a laparotomy with Hartmann's procedure were performed. She was covered with IV antibiotics according to local trust protocol. Biopsies confirmed Necrotising Fasciitis (NF) and a rectal biopsy showed invasive moderately differentiated adenocarcinoma. Following the initial debridement, a surgical re-look with debridement took place with a referral to colorectal oncology.

Misleading elements

The unremarkable history including an insidious history of back pain for 1-month with no reported fever, no abdominal pain and normal bowel habits in a previously fit and well female in combination with the relatively normal observations, excluding a tachycardia, concealed the severity of the condition.

Helpful details

A tachycardia following fluid resuscitation with the marked leucocytosis and anaemia led to an urgent out of hours pelvic CT which exposed the severity of the condition.

Differential and actual diagnosis

An initial working diagnosis of abscess was made, with differentials including cellulitis/erysipelas, gas gangrene and ulcerating tumour. The actual diagnosis was an invasive rectal adenocarcinoma with NF.

What is the educational relevance of the case

The classical presentation of NF is of a lethal and rapidly progressive soft tissue infection. It should be suspected in a

patient with soft tissue infection accompanied by significant pain or signs or symptoms of systemic toxicity. This case exposed that NF may have a more insidious onset and the clinical presentation may be misleading. Definitive treatment is surgical debridement, which should not be delayed while awaiting microbiological and imaging investigations, with antibiotic therapy being an adjunct.

#23395 : TELE-TRIAGE: Developing guidelines for lay operators managing out-of-hours telephone triage services for high-risk segments of the population.

Authors:

Farah Islam (1), Nele Aerssens (2), Marc Sabbe (3), Koen Milisen (4)

1. Department of Patient Related and Public Health Research, KU Leuven, Leuven, Belgium
2. Faculty of Medicine , KU Leuven, Leuven, Belgium
3. University Hospitals Leuven, Department of Emergency Medicine, Belgium; KU Leuven, Department of Public Health and Primary Care, KU Leuven, Leuven, Belgium
4. Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; University Hospitals Leuven, Department of Geriatric Medicine, KU Leuven, Leuven, Belgium

Keywords: telephone triage, Delphi consensus, high-risk populations, unplanned care

Abstract :

Intro: The use of telephone triage services has rapidly become an important tool for delivering out-of-hours non-urgent care. However, there is debate within the scientific community related to the safety of these tools, especially for triaging vulnerable segments of the population who frequently present with non-normative complaints of common symptoms. Knowing that these are the most complex cases to manage through telephone triage, we aim to establish a clear protocol for a Delphi process seeking to establish expert consensus on the management of telephone triage calls by lay operators for cases related to children and older persons seeking out-of-hours unplanned care.

Methods: A three-part Delphi consensus study will be conducted between May to December 2020. A purposive convenience sample of n=12–15 experts across Belgium will be invited to partake in the planned study. Eligibility criteria for panelists will include at least two years of prior professional experience relevant to unplanned care related (1) older persons (over 65 years of age) or (2) children (between the ages of 0–15) and/or (3) telephone triage. The two expert panels for geriatric and pediatric groups will be conducted parallel to each other.

The first two parts of the study will be held electronically. Online surveys will be developed using the Qualtrics software and will each take about 30–45 mins to complete. In the first survey, panel members will be asked to provide their open-ended opinion on a set of triage protocols that are currently used. In the second survey, participants will be asked to rate their level of agreement or disagreement for protocols using a four-point Likert scale. The third part of the study will include a face-to-face round table meeting (to be held in Leuven, Belgium) to achieve final consensus regarding which protocols should be used for managing out-of-hours telephone triage calls for children and older persons.

Data analysis: Descriptive and thematic analyses will be used to aggregate responses. All responses will be quantitatively and qualitatively analyzed over several rounds until expert consensus is achieved. Consensus will be obtained when at least 70% of the expert panel members agree (positive consensus) or disagree (negative consensus) regarding elements proposed in a survey. If no consensus is reached during a maximum of two additional survey rounds, further discussion will take place during the planned meeting.

Conclusion: A clear protocol describing our planned study will ensure scientific transparency and may potentially guide best practice methods for implementing a Delphi process. Clear guidelines for managing out-of-hours telephone triage for vulnerable segments of the population will have large implications for improving the overall quality of TT services led by lay-operators.

Trial Registration / Funding Information (only) :

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 81265

#23397 : Aortocolic fistula complicating a sigmoid diverticulosis

Authors:

Gaia Bavestrello Piccini (1), Jean-Christophe Cavenaile (1)

1. Emergency Department, CHU Brugmann, Brussels, Belgium

Keywords: fistula, diverticulosis, complication, rectal bleeding, aneurysm

Abstract :

A 63 years old patient presented to our Emergency Department for rectal bleeding and abdominal pain.

The patient had a medical history of intermittent claudication, and of an aortic aneurysm of 37mm which had been discovered accidentally 12 months earlier. Given the size of the aneurysm, there was no surgical indication at the time, and therefore a semestral follow up had been put in place, however the patient had not performed the follow up scheduled at 6 months.

The patient presented with an arterial blood pressure of 110/60 mmHg, a heart rate of 90 bpm, an oxygen saturation of 96%, and a body temperature of 36.2° C.

The clinical examination showed a sensibility at the level of the left flank, but without significant tenderness nor rebound; the peristalsis was normal.

The blood test showed: Hemoglobin 8.8 g/dl, white blood cells 21 G/L, platelets 550 G/L, and normal coagulation tests.

A digital rectal examination was therefore performed, and it showed the presence of melena.

A gastric endoscopy demonstrated the presence of esophagitis, but this finding alone could not be responsible for the overall clinical picture.

An abdominal CT scan was therefore performed, and it revealed a voluminous aortic aneurysm of 66mmx46mm, and 90mm of length. The sigmoid colon presented thickened walls, in contact with the anterior and inferior wall of the aneurysm. This image was suggestive of a covered rupture of the aneurysm, with probable presence of an aortoenteric fistula with the sigmoid colon but with no active communication.

The patient underwent a surgery which was conducted by a team of vascular and digestive surgeons.

The digestive surgeons realized a colostomy according to the Hartmann's procedure, while the vascular surgeons implanted a vascular prosthesis which had been treated with aluminum salts, and which could therefore be placed in a site at risk for infections.

The results were satisfying, besides the thromboembolic complications of the surgery which have been treated with low molecular weight heparin.

Five months after the initial surgery, restoration of bowel continuity was performed.

Aortoenteric fistulas are a rare complication of aortic aneurysms, and they usually occur at the level of duodenum and small bowel. The classical presentation includes a triad of gastrointestinal bleeding, abdominal pain and a pulsating abdominal mass. The CT scan is the most accurate diagnostic tool to demonstrate the presence of an aortoenteric fistula.

Attachment: Schermata 2020-04-27 alle 12.07.22.png

#23401 : Drunk on sugar

Authors:

Rachel Murray (1)

1. Accident & Emergency, Tameside & Glossop ICT, Manchester, United Kingdom

Keywords: confusion, intoxication, auto-brewery syndrome

Abstract :

Full consent to use of case given

History in brief: 52 year old male multiple presentations with confusion, unbalanced gait, difficulty with speech, on occasion aggressive. No trauma or head injury, no recent travel, no known excessive alcohol consumption, no drugs no recent infective symptoms, no exposure hx.

Misleading : PMH of PTSD with some alcohol used as coping mechanism but not in recent time.

Examination: altered gait and alertness, loss of awareness and slurred speech. Co-ordination effected with upper limbs and unable to recall recent information, unable to locate in time, place and self.

Initial DDX: alcohol and/or drug consumption, encephalitis/meningitis, acute mental health issue

initial interventions/investigations: IV anti-viral, IV antibiotics, blood sugar monitoring, MRI head

Results: all scans normal, alcohol level on 2 occasions 310 (19:00) and 364 (09:15)

With all results possibility of intoxication was again reviewed. Upon more detailed history patient had not had access to alcohol, periods of confusion had been happening more frequently than hospital attendances. Patient did have a history of excessive alcohol intake but adamant that this was not occurring and had received extensive psychiatric assessment and treatment for PTSD.

His wife had kept a diary of when patient had been having episodes and had become concerned that it appeared to occurring after meals and drinks with a high carbohydrate content especially when episodes were occurring in the early hours of the day.

This gave an alert to the possibility of 'auto-brewery syndrome' causing the elevated alcohol levels without consuming alcohol. This was reassuring for his wife as she repeatedly being told that he was simply drunk and was not getting further assessment.

The patient is currently undergoing further assessment with gastroenterology and has been placed on a low carbohydrate diet .

This case is interesting due to it's rare nature and a case to remember, not everyone is 'just drunk' and alternative diagnosis must always be looked for especially when family are concerned.

#23404 : Tap it: Trainee led initiative to reduce unnecessary blood testing in the emergency department

Authors:

Kene Maduemem (1), Eliza Magnusen (1), Ayesha Shafiq (1), Habab Mekki (2), Arani Sridhar (1)

1. Paediatrics, Leicester Royal Infirmary, Leicester, United Kingdom
2. Paediatric Emergency Medicine, Leicester Royal Infirmary, Leicester, United Kingdom

Abstract :

Background: Unnecessary blood testing in the paediatric emergency department (PED) is a potential starting point for diagnostic dilemma, anxiety to families and increased healthcare costs. We hypothesized that a significant number of blood tests are performed instinctively rather than clinically indicated. This stimulated a quality improvement initiative to enlighten trainees on the utility of blood tests while aiming to enhance clinical decision making.

Methods: Children presenting to a tertiary PED who had blood tests over a 2-week period in April 2019 were enrolled in the first audit cycle. Blood tests requested were interpreted in line with presenting features and clinical impression. Sequel to the evaluation, anonymised case vignettes were circulated to trainees and advanced nurse practitioners (ANPs) to ascertain their practice of blood tests requests. Recurrent audit cycles have been ongoing for sustainability of scientific logic based practice.

Results: One hundred and one children who had blood tests were enrolled. All the children had full blood count test done; 93%, 70%, 47%, 44% and 32% had renal function, liver bloods, bone profile, blood culture and clotting testing done respectively. Over half of these blood tests had no clear clinical indication. The yield of the tests performed without clinical indication was 0%. Case vignettes were attempted by 26 trainees and ANPs to evaluate their attitudes to blood test requests. Number of requested blood tests not clinically indicated was lower than anticipated; probably explained by self-thought processes. Repeat cycles have shown over 30% reduction in number of blood tests performed without clinical indication.

Discussion and Conclusions: The utility of blood tests may be an easily forgotten subject in paediatric training. It is noteworthy that implementation of measures to reduce unnecessary blood test requests will result in an estimated savings of £1000/month. Interventions comprising regular educational sessions, audits, posters and blood tests champions are in place to sustain the reduction of unnecessary blood tests.

#23405 : Utilising Unique Methods of Communication in an Emergency Department During the COVID-19 Pandemic**Authors:**

Claire McGroarty (1), Alan Whitelaw (2), Nicola Littlewood (2)

1. Queen Elizabeth University Hospital, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom
2. Emergency Medicine, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Keywords: COVID-19, communication, management

Abstract :**INTRODUCTION:**

The Queen Elizabeth University Hospital (QEUEH) is one of the largest and busiest hospitals in Scotland, with the Emergency Department (ED) home to nearly 350 staff members. We pride ourselves on team work and communication however the COVID-19 pandemic presented us with a highly challenging and rapidly changing clinical landscape which led us to develop new and innovative ways to communicate with our team. The COVID-19 global pandemic undoubtedly caused heightened anxieties amongst not only the public but also our health care teams. Strong leadership, preparedness and a clear command and control structure were essential to ensure a cohesive departmental and hospital wide response to this global emergency with communication at the core.

METHODS:

The ED Clinical Director, Clinical Lead and selected senior consultant and nursing colleagues formed the operational and strategic planning team for the QEUEH ED response to COVID-19. Together we formulated a plan for robust and innovative ways to communicate with our team during the evolving situation. In addition to keeping our team informed of important clinical updates we had to ensure that every staff member was up to date with daily changes in PPE guidance, departmental organisation, flow and the hospital response to COVID-19. The cornerstone of our communication was in the form of a daily COVID-19 ED update containing vital information, policies and guidance changes in real time. This update initially was sent to staff members via email however it became clear that this was not reaching all team members consistently or promptly due to difficulties accessing internal email from home. To overcome this, we utilised use of the team space on the Induction App accessible on mobile devices allowing uploading of key documents and information, displayed updates on closed social media ED staff groups and formed team WhatsApp groups to enable rapid dissemination of information. We also ensured that our daily updates and guidance were shared widely amongst our specialty colleagues across the hospital to ensure clear lines of command and control.

DISCUSSION:

As Emergency Medicine physicians we are all well aware of the importance of team cohesion and information sharing during times of pressure however this unprecedented global pandemic presented a unique challenge and it was essential that we led the and controlled our front-door response to COVID-19. Our commitment to robust communication with our team and across the hospital has led to an overwhelming collegiate response to this global pandemic with all staff members feeling included, care for and prepared. Our style and methods of communication have now been adopted now only across the hospital but have been shared widely nationally.

CONCLUSION:

Using a robust template for daily communication and unique methods of information sharing we have fostered a cohesive team response to COVID-19 which will undoubtedly change our practice as we move forward.

Trial Registration / Funding Information (only) :

Nil required

#23406 : Cardiomyopathies: toxic myocarditis

Authors:

Ana Ramos Rodríguez (1), Beatriz Martín Pérez (1), Rubén Pérez García (1), Celia Blanco Fraile (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: miocarditis, resonancia magnética cardíaca, efectos tóxicos

MRI scans

Patient images are involved and I have adequate permission to use them

Abstract :**Breves detalles clínicos**

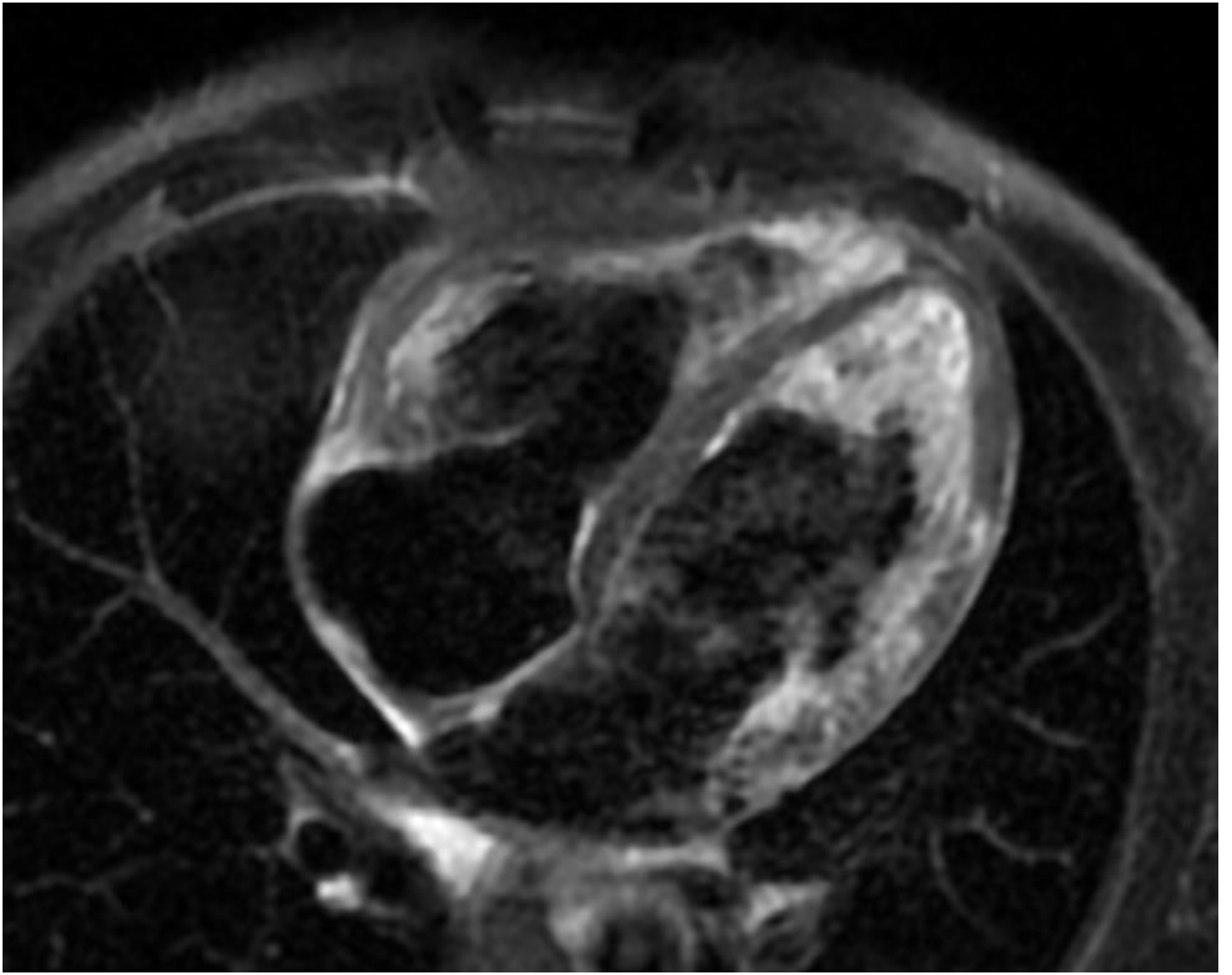
Hombre de 25 años sin antecedentes personales o familiares de interés. No hay tratamientos actuales. Trasladado al Departamento de Emergencias fuera del hospital después del inicio del dolor de apuñalamiento repentino y constante en el hemitórax izquierdo, parestesias en el brazo izquierdo, palpitaciones. Consumo de alcohol, tabaco, cannabis y velocidad el día anterior.

Descripción de las anomalías relevantes

Signos vitales: Presión arterial: 116/80 mmHg. Frecuencia cardíaca: 95 latidos por minuto. Saturación de oxígeno: 98%. Afebril. El examen físico es anodina. Examen de sangre: troponina I 4,23ng/ml (<0.01-0.05ng/mg) con un pico de 24 horas de 16,52 ng/ml. Toxicidad de la orina positiva para anfetamina, metanfetamina, cocaína y cannabis. Electrocardiograma: ritmo sinusal con supresión del segmento ST, menos de 1 milímetro de V2-V6, I,II, aVF. Thorax X-ray: anodyne. Ecocardiograma:hipocinesia. Enfermedad de las arterias coronarias normal. Resonancia cardíaca: edema intramiocárdico irregular en segmentos laterales y apicales, lateral and medium segments with hipocinesia and late enhancement and minimal pericardial effusion.

¿Por qué esta imagen es clínica o educativamente relevante?

Las cardiomiopatías representan una razón frecuente para la atención en el Departamento de Emergencias. La resonancia cardíaca es una técnica diagnóstica no invasiva en la que el uso del contraste en combinación con la resonancia magnética CINE es una herramienta útil para el diagnóstico de miocarditis, ofreciendo una alternativa a la biopsia endomiocárdica, permitiendo la diferenciación de otras entidades con síntomas similares. El edema se muestra con mayor señal en secuencias mejoradas T2 y el estudio de mejora tardía con administración de gadolinio muestra un patrón típicamente irregular con afectación subepicardial, diferente del patrón producido por la cardiopatía isquémica. También proporciona información de pronóstico.



#23407 : Non-physical symptoms in risk stratification: an adrenal crisis case report**Authors:**

Eleonora Maria Pisano (1), Alice Monti (2), Sonia Seghezzi (2), Giulia Marullo (2), Gianfranco Mirarchi (2), Alice Valentina Corbani (2), Giulia Cantoni (2), Maria Antonietta Peigottu (2), Luca Mellace (2), Francesca Cortellaro (2)

1. UOC Medicina d'Urgenza e Pronto Soccorso, ASST Santi Paolo e Carlo - Ospedale San Carlo Borromeo, MILANO, Italy
2. UOC Medicina d'Urgenza e Pronto Soccorso, ASST Santi Paolo e Carlo - Ospedale San Carlo Borromeo, Milano, Italy

Keywords: Non-physical symptoms, Psychiatric disorders, Adrenal crisis, Addison's disease, Risk stratification

Abstract :

A 33-year-old male patient was admitted to our ED because of syncope and worsening weakness. At presentation he suffered from cognitive-motor slowing and arterial hypotension (blood pressure 70/40 mmHg). Blood tests revealed acute renal failure with increased uremia, glycaemia was normal, no sign of inflammation. Diuresis was preserved.

Two months before he was diagnosed with an anxiety and depressive disorder and he was prescribed Olanzapine and Citalopram. He had just a mild improvement with therapy and for this reason he had already been visited in our ED by a psychiatrist who titrated medications.

Arterial blood gas analysis showed metabolic acidosis, severe hyperkalemia and hyponatremia.

The clinical scenario raised suspicion of adrenal crisis.

Blood tests showed a very low morning serum cortisol and high adrenocorticotrophic hormone, confirming the diagnosis of primary hypocortisolism. Prompt crystalloids infusion and dialysis were necessary before admission.

The patient received hydrocortisone with quick and substantial improvement both in electrolyte balance and psychiatric symptoms, and he was discharged without any psychiatric therapy. Screening for autoimmunity was negative and abdomen MRI revealed no adrenal masses.

Psychiatric disorders account for 5% of all admissions in the Emergency Department (ED) and just under half of these are psychiatric emergencies.

Some metabolic alterations and autoimmune diseases may manifest with psychiatric symptoms, both in acute and chronic phases. Addison's disease is a rare but potentially life-threatening condition, easily to diagnose and treat, but atypical presentations are described.

It's a matter of concern to approach any patient who comes to the ED with psychiatric manifestations by considering possible secondary etiology of symptoms.

Our patient had been in psychiatric treatment for months; he was previously evaluated in the ED for anxiety and mood disorders resistant to therapy. Finally, he accessed the ED for acute adrenal crisis causing hypovolemic shock, severe electrolyte alterations, acute renal failure. Our question is: was it possible to prevent that diagnostic delay?

Psychiatric symptoms can be the main precursory clinical presentation of some organic illnesses. This is relevant for prevalent diseases such as hypothyroidism, for less common pathologies such as hyperparathyroidism, multiple sclerosis and Cushing syndrome, and also for rare but potentially lethal conditions such as Wilson's disease and adrenal insufficiency.

The clinical approach to psychiatric symptoms in the ED is challenging: when vital parameters are unaltered, psychiatric disorders may be easily labelled as primitive. When the short-term risk stratification is paramount as in the ED, the differential diagnosis of a psychiatric disorder cannot be performed without looking for elements suggestive of a secondary disorder.

We must always consider alternative diagnosis of psychiatric disorders and keep clinical suspicion high. A joint evaluation by an emergentist and a psychiatrist could be useful to select patients at risk for secondary psychiatric disorders. Such patients should not be prescribed specific therapies without a complete evaluation and screening tests, as electrolytes and blood count, c-reactive protein, renal, liver and thyroid function and electrocardiogram. Follow up visits are essential to evaluate the efficacy of therapy and for diagnostic reassessment if persistent symptoms.

Attachment: Non-physical symptoms in risk stratification_an adrenal crisis case report.docx

#23413 : Experiences of continuity of care among the acutely admitted older multimorbid patient's – a qualitative study.

Authors:

Lilian Boye (1), Christian Backer Mogensen (1), Pernille Tanggaard Andersen (2), Frans Bock Waldroff (3), Thorbjørn Hougaard Mikkelsen (4)

1. Emergency Department, University Hospital of Southern Denmark - Aabenraa, Aabenraa, Denmark
2. Department of Public Health - Health Promotion, University of Southern Denmark, Esbjerg, Denmark
3. Department of Public Health - General Practice, University of Copenhagen, Copenhagen, Denmark
4. Department of Public Health - General Practice, University of Southern Denmark, Odense, Denmark

Keywords: Experiences, acute admission, continuity of care, interviews, qualitative research

Abstract :

Background

When older people are acutely admitted the hospital, the patient's general practitioner and the municipality strives to create continuity of care (CC). CC regards the manner in which patients experience transitions, their relationship with their health care providers and relatives, the transition of information, and consistency of care and personnel. CC is defined as how patient experience care as coherent and linked over time. Continuity of care may be difficult to establish for people with multimorbidity because of the variety of organizations and places involved. The objective of this qualitative study was to investigate the experiences of CC among the acutely admitted older multimorbid patients.

Methods

Interviews took place from May 2018 to August 2019 at two emergency department at the University Hospital of Southern Denmark – Sonderjylland. Acutely admitted patients more than 65 years of age with multimorbidity, who received home care service on a regular basis and lived in the catchment area of the hospital were included. Men and woman were conveniently sampled until saturation of data was obtained. First interview took place at the hospital during the acute admission and the second interview in the home of the patient 4-12 weeks later. Both interviews followed a semi structured interview guide. Interviews were recorded and transcribed. Content analyzing were performed.

Results

Thirteen woman and nine men participated. The average age was 82 years with a range from 69-97 years. Three main themes emerged: 1. Overall impression and CC, 2. Consequences to CC and 3. Whom among the patients experienced barriers towards CC. From the theme Consequences to CC we learned that it is in the discharge process most patients have experiences that affected continuity of care. However the most interesting outcome, found in the overall impression theme was that the patients who had experiences, that in a technical sense should have affected CC, were able to see above these experiences and have a positive reaction to their journey and CC through the health care system.

Discussion & conclusions

The health care system strives to create CC. Focusing on the concept of CC may encourage the health care system to focus on the areas where the older multimorbid patients have experiences that affected CC. In this study most patients experienced consequences around the discharged process. We recommend that the health care system work

on the processes where the responsibility for the patient shifts from one sector to another. We believe this will benefit the patients and have a positive clinical impact.

Trial Registration / Funding Information (only) :

The PhD study is funded by the Region of Southern Denmark, The Danish municipalities; Aabenraa, Sonderborg, Haderslev, Tønder, The AP Møller Foundation and The University Hospitals of Southern Denmark – Sønderjylland. The funders did not have any influence on the design of the design, results or conclusion.

#23415 : Association between homecare and readmission rates among elderly acutely admitted patients – a register-based study**Authors:**

Mette Elkjær (1), Jette Primdahl (2), Mikkel Brabrand (3), Christian Backer Mogensen (4), Bibi Gram (5)

1. PhD student, Department of Emergency Medicine, University hospital of Southern Denmark, Aabenraa, Denmark
2. Professor, Danish Hospital for Rheumatic Diseases, University hospital of Southern Denmark, Sønderborg, Denmark
3. Professor, Department of Emergency Medicine, University hospital of Southern Denmark, Esbjerg, Denmark
4. Professor, Department of Emergency Medicine, University hospital of Southern Denmark, Aabenraa, Denmark
5. Associate Professor, Research Unit of Health Sciences, University hospital of Southern Denmark , Esbjerg, Denmark

Keywords: Elderly patients, Emergency department, Homecare, Readmission, Mortality

Abstract :

Background: Acutely admitted patients who are dependent on homecare may be especially challenged with regard to readmissions and mortality. The aim of this study was to assess the association between number of hours of received homecare and readmission and mortality after an acute admission in an Emergency Department (ED).

Methods: This study was planned as a register-based cohort study. Data were extracted from Danish registers through Statistics Denmark to construct a database on readmission rates and associated variables. We included all patients above 65 years living in Denmark with an acute admission to any hospital in Denmark, from 1st of December 2016 to 30st of November 2017. We include all acute admissions, registered as in-patients, with a length of stay \leq 48 hours to represent the majority of patients discharged directly from an ED. Patients living in caring-home and patients without Danish citizenship were excluded. The primary outcome was readmission, defined as an acute, unplanned contact, registered as in-patient or out-patients, within 30 days from the index admission. Secondary outcomes were mortality after 30 days and 180 days. Descriptive statistics were used to describe age, sex, marital status, income and whether they received community nursing care and physiotherapy. Logistic regression analyses were used to clarify the association between use of homecare (hours a week) and readmissions and mortality. Comorbidity, diagnosis, use of medication for mental illness, and length of stay were included as confounders.

Results: In total 177,109 patients had an acute admission during the one year period. Of these, 83,653 met the inclusion criteria. Mean (SD) age was 77(8) years, 51 % were female, 54 % were married and mean (SD) length of stay was 19(13) hours. Among these patients, 20 % received homecare, 13% received community nursing, and 4 % received physiotherapy. The analyses are expected to be completed in October.

Conclusion: Knowledge about the risk profile of patients who are dependent on homecare can be used to organize and coordinate patients' different contacts at the hospital. Furthermore, knowledge about their risk of readmission and mortality may, in combination with the patient's wishes, be used to develop care and treatment interventions to be implemented in collaboration between the ED and primary sector.

Trial Registration / Funding Information (only) :

Funded by Novo Nordisk fundation and University hospital of Southern Denmark, Aabenraa

#23417 : Psychological Impact of the Covid-19 Pandemic on Health Care Workers in the Emergency Department, Portiuncula University Hospital.**Authors:**

Enda Jennings (1), Kiren Govender (2)

1. Registered Advanced Nurse Practitioner, Emergency Department, Portiuncula University Hospital, Saolta University Hospital Group, Galway, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta University Hospital Group, Galway, Ireland

Keywords: Staff; Wellbeing, mental Health; COVID19 Crisis

Abstract :**Background:**

In response to the coronavirus 2019 (COVID-19) pandemic, Ireland saw its confirmed cases rise from one to 18,184 between Feb and April 2020. Healthcare workers accounted for 3,830, 21% of the total cases, with 5 deaths reported up to April 18th 2020. Nationally strategies to reduce transmission ranged from promoting hand hygiene, cough etiquette & social distancing to the introduction of full social lockdown. Locally, Portiuncula University Hospital quickly introduced a range of measures to deal with the expected demand including closing non-essential services, redeploying staff to critical areas and dividing Emergency Department resources to support the delivery of a COVID-19 and non-COVID-19 pathway for our patients. Whilst healthcare occupations by their nature carry an extra emotional burden in comparison to other career pathways, the COVID-19 pandemic has been reported as adding extra challenges. We chose the Emergency Department (ED) to explore the psychological impact of the COVID-19 pandemic on healthcare staff.

Methods:

From April 25th to May 15th 2020, healthcare workers from the Emergency Department were invited to participate in a descriptive study with a self-administered questionnaire. The questionnaire included demographic characteristics; the validated Depression, Anxiety, and Stress Scale (DASS-21); the Impact of Events Scale-Revised (IES-R) instrument; a section rating the level of perceived support workers received from work and home and an open space for participants to document areas around the COVID-19 which they found particularly difficult. Healthcare workers included clinical and non-clinical staff working in both COVID-19 and non COVID-19 areas.

Results:

80 to 90% of participants showed normal levels of Depression, Anxiety and Stress with the DASS-21 scale, however 10% recorded scores demonstrating mild to severe depression, 15% demonstrated moderate to extremely severe anxiety and 20% demonstrated mild to severe stress. The IES-R scale demonstrated similar results with 80% scoring in the normal range and 20% scoring higher than 24 concerning for post-traumatic stress disorder. Participants indicated they received the most support from friends/family,

followed closely by colleagues/peers with occupational health and human resource supports being the least rated. Analysis of written reports demonstrate the challenges staff are feeling in relation to maintaining safety of family/colleagues, the physical burden of donning and doffing, keeping abreast of constant change in best practice guidance and being unable to visit close and vulnerable family members and in cases their children voicing concerns. However, one participant also commented on the reduced overall numbers attending the ED making their workload more manageable.

Conclusion:

Internationally healthcare workers are recognised as the services greatest asset. Healthcare work by its nature ordinarily carries the risk of contagion and work related stress. However the COVID-19 pandemic poses particular and specific challenges. This study demonstrates the levels of anxiety and stress experienced by emergency department healthcare staff at Portiuncula University Hospital Emergency Department.

#23418 : Redesign of a Resuscitation Area in Response to the COVID-19 Pandemic**Authors:**

Claire McGroarty (1), Alan Whitelaw (2), Nicola Littlewood (2), Kevin Thomson (2)

1. Queen Elizabeth University Hospital, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom
2. Emergency Medicine, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Keywords: Resuscitation, communication, redesign, systems

Abstract :**INTRODUCTION:**

COVID-19 has undoubtedly changed the clinical landscape across the world with many Emergency Departments finding themselves in uncharted territory. In addition to implementing a rapid redesign of the Emergency Department (ED) flow and systems our resuscitation area has been transformed in order for us to be prepared for and manage the COVID-19 situation. The Queen Elizabeth University Hospital in Glasgow opened in 2015 and is one of the largest and busiest hospitals in the UK seeing approximately 110,000 new adult patients per year. The collegiate response to the COVID-19 pandemic has been nothing short of inspiring with Emergency Medicine providing leadership at the front door.

METHODS:

We have an 8 bedded resuscitation room seeing around 50-60 critically unwell patients per day. In order to prepare for the COVID-19 pandemic we redesigned our systems and processes in the resuscitation room to provide a safe, efficient and high functioning area for our patients, team and specialty colleagues. Our first task was to control entry to resus through one single controlled point of entry with a clear stop sign to ensure staff arriving in resus could be briefed on safety, personal protective equipment (PPE) requirements and to allow introduction to the resus consultant in charge. PPE guidance for droplet and aerosol generating procedures were developed based on national government and hospital board statements and were clearly displayed in our dedicated PPE donning zone. Each bay was stripped out to avoid unnecessary contamination of vital equipment such as airway and circulation trolleys, ventilators and pumps. This equipment was then consolidated into a rapid access "grab" shelving unit complete with a rotating charging cycle for electrical equipment. Central line and arterial line kits were formed in sealed rapid access bags containing everything required to perform the procedure thereby providing a more efficient and lean system. Finally, a daily morning resus brief was developed and carried out every morning by telephone by the consultant in charge of resus to the key specialty teams who may be expected to attend resus throughout the day, this included intensive care, anaesthetics, surgery and orthopaedics. This brief ensures that specialty teams have received an induction to resus following the redesign, are FFP3 mask fit tested and are aware of the controlled single point of entry for the resus room. This 15-minute brief has been extremely well received by our specialty colleagues and has undoubtedly led to a hospital wide collegiate response to COVID-19.

CONCLUSION:

The redesign and planning of our resuscitation area have been integral in ensuring a streamlined, safe and professional response to the COVID-19 situation. The lessons we have learned are invaluable and will continue to evolve positively throughout the COVID-19 pandemic and beyond.

Trial Registration / Funding Information (only) :

Not required

#23419 : Superficial Vein Thrombosis (SVT) of Leg: It's time to think a bit deeper**Authors:**

M.R Chowdhury (1), Kiren Govender (2)

1. Emergency Department; Portiuncula University Hospital; Galway, Portiuncula University Hospital, Soalta Hospital Group, Ballinasloe, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta Univeristy Hospital Group, Galway, Ireland

Keywords: SVT; superficial vein Thrombosis

Abstract :

Superficial Vein Thrombosis (SVT) has traditionally been considered to be a benign and self-limiting condition, often receiving little attention both clinically and in medical research. There is increasing recognition that a significant proportion of those presenting with SVT will have concomitant DVT or pulmonary embolism (PE), or are at significant risk of developing VTE. Proper treatment with anticoagulation will prevent thrombosis from spreading into the deep veins and embolization to lungs causing life threatening PE. The significance of SVT has resulted in guideline changes by the American College of Clinical Pharmacology (ACCP 2012) for a superficial thrombophlebitis, the SURPRISE trial published in 2017 and Thrombosis Canada February 2018.

The superficial femoral vein (SFV) is the part of the deep venous system between the popliteal and common femoral veins. The word "superficial" could be interpreted by referrers as indicating that this venous segment is part of the superficial venous system. The SFV is now referred to as the femoral vein in most ultrasound reports.

A survey was carried out at Portiuncula University Hospital. Questionnaires were distributed to clinicians, to assess their understanding of the anatomy of the deep and superficial venous system of the leg and the indications for anticoagulant treatment.

A total of 48 questionnaires were distributed by hand to the clinicians, who were asked to fill the questionnaire instantly. The target group also included medical, surgical and obstetric gynaecology senior house officers and registrars. Among 48 clinicians, all of them (100%) agreed to prescribe anticoagulant for DVT. Only n= 4(8.33%) would want to anti-coagulate for SVT and n=42 (91.66%) would not anti-coagulate SVT. 96% of clinicians do not recognize the SFV as being part of the deep venous system and that its thrombosis requires anticoagulant treatment.

This study highlights that a significant number of doctors are still not aware of guidelines. This is concerning as patient's not on anticoagulant treatment for SVT may develop life threatening Pulmonary Embolus. The study also highlighted the need for education and a need for universal use the femoral vein to avoid confusion.

Authors:

Ciara Mooney (1), Kiren Govender (2)

1. Emergency Department, Advanced Nurse Practitioner, Portiuncula University Hospital, Saolta University Hospital Group, Ballinasloe, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta University Hospital Group, Galway, Ireland

Keywords: Healthcare assistants, Ed overcrowding

Abstract :

The Emergency Department (ED), Portiuncula University Hospital, Ballinasloe, operates as a 24 hour 7 day a week Emergency Service. Attendances in 2018 were average 26,000 people. Some of the Emergency Medicine programmes key priorities are streamlining and minimisation of delays for patients. Many previous studies have been done reflecting on the views of doctors and nurses in the ED. The aim of this audit was to evaluate the views of healthcare attendants (HCA) traditionally viewed as low key workers in the ED and to identify how overcrowding in the ED impacts on the role of the HCA. Interviews were held with the HCA's and strengths and barriers to their role of the HCA's in the ED were identified. Overcrowding in EDs is internationally recognized as one of the greatest challenges to healthcare workforce. Currently the ED at Portiuncula University hospital there are six full time posts for HCA's, covering days and nights with one or two on duty on any given day.

All of the HCA's expressed job satisfaction as an important factor to be considered for working in their role. They also noted that respect and acknowledgement of their role as part of the ED team is generally noted. Essential to patient centred care and safety was teamwork. These however is affected by a number of factors and all placed overcrowding as a key factor that undermined their function and satisfaction. Several reasons were given as influencing this.

This study revealed that obstacles to performance, job satisfaction, well-being and teamwork was not having enough time or space to carry out basic patient care efficiently, having numerous interruptions while carrying out patient care, the challenges of being delegated countless tasks at one time and carrying out duties that are not patient care centred. They also experienced disrespectful mannerism of expectations, lack of courtesy and high stress levels amongst all staff during times of overcrowding.

They contended that the lack of space in the ED was an increased health and safety risk and advised that during times of overcrowding there should be an increase in HCA numbers, an acknowledgement that they face similar stress and anxiety levels as doctors and nurse during these times. Often they also attend to patients in the resuscitation and attend to those that die tragically.

This brief study reflects on the role of the allied ED team members and the impact of overcrowded ED on them. It also entrenches the value of reflection on the views and opinions of all working in the ED.

#23421 : Being creative during a neonatal resuscitation effort – A case report of an epidural catheter being used as an umbilical vein catheter**Authors:**

ANASTASIA SPARTINO (1), Vasiliki Bimpi (2), Fragkiskos Maragkoudakis (3), Paris Anagnostopoulos (4)

1. MD, PhD candidate, University of Crete - School of Medicine, Heraklion Crete, Greece
2. Pediatrician, General Hospital of Rethymnon, Rethymnon, Greece
3. Pediatric trainee, General Hospital of Rethymnon, Rethymnon, Greece
4. Obstetrics and Gynecology trainee, General Hospital of Rethymnon, Rethymnon, Greece

Keywords: Infant, resuscitation, umbilical vein catheter

Abstract :

Brief clinical history: A 32-year-old gravida 2 para 1 woman at 36 weeks of gestation presented at the Emergency Department with vaginal hemorrhage due to severe placenta abruption and fetal distress. She was immediately transferred to the operating theater where she underwent emergency caesarian section under general anesthesia. The infant had an Apgar score of 5/10 one minute after birth. We performed pharyngeal suction due to presence of blood and since the infant remained in distress, we proceed to intubation. In order to be safely transferred to the nearest hospital with a NICU, which is approximately 60 minutes away, we decided that it was necessary to secure vascular access. After multiple unsuccessful attempts of peripheral vein cannulation, we discussed the possibility of umbilical vein catheterization.

Misleading elements: Obtaining vascular access is a crucial and demanding task during neonatal resuscitation. Since it is an extremely rare event outside a Neonatal Intensive Care Unit (NICU), many hospitals, including ours, do not have the appropriate equipment needed.

Helpful details: The umbilical vein can be found through the exposed umbilical stump, where it has to be distinguished from the two umbilical arteries by its position at the head end, the thinner wall and the larger lumen. It can be cannulated by a 5Fr (=1,667mm external diameter) catheter in the case of a full-term infant (over 1500gr) or a 3.5Fr (=1,167mm external diameter) catheter in pre-term infants (less than 1500gr).

Differential and actual diagnosis: Since the hospital wasn't equipped with specialized UVC kits, we attempted to insert an epidural catheter, instead. An epidural catheter is a sterile atraumatic flexible multi-orifice 19-gauge catheter (≈1,1mm external diameter) used for continuous infusion to the epidural space. The attempt was successful and the infant was transferred to the nearest NICU where the catheter's positions was confirmed with an X-ray.

What is the educational and/or clinical relevance of the case? Informed consent by patient's parents was obtained in order to report the case. Infants requiring vascular access is an extremely rare event outside the NICU. It is recommended by the European Resuscitation Council neonatal guidelines that umbilical vein catheterization is a viable technic to secure central venous access for infants up to 14 days old. Although the preferred technique for obtaining vascular access remains peripheral vein catheterization, this is not always a choice. The past few years, intraosseous route has gain acceptance during emergency cases for adult and pediatric resuscitation. The use of this technic is also restricted by the availability of the appropriate devise and practitioners' knowledge. Resuscitation of a neonate in low-resources setting requires competency in the use of the available equipment and adaptability of the provider.

#23423 : Time to Treeage

Authors:

Enda Jennings (1), Kiren Govender (2)

1. Registered Advanced Nurse Practitioner, Emergency Department, Portiuncula University Hospital, Saolta University Hospital Group, Galway, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta Univeristy Hospital Group, Galway, Ireland

Keywords: Triage, Emergency Medicine**Abstract :**

Each year over 26,000 patients will visit our Emergency Department. Triage is the essential process to clearly define and ensure that high acuity patients are prioritised over those with a lower acuity. A triage nurse's ability to quickly capture critical patient information and accurately assign the appropriate triage level is vital to ensure those presenting with life or limb threatening conditions are given the highest priority. All staff received triage training on the use of two triage scales, the Manchester Triage Scale and the Irish Children Triage Scale in line with current Emergency Medicine Programme's (EMP) recommendations. The national target time of check in to triage is <15 mins. With triage waiting times regularly hitting over an hour it was decided to begin a quality improvement project with a view to examining the triage process and identifying areas for improvement within the constraints of the current resources.

These cycles have included to date: staff engagement, audit and display of current standards, average triage times & staff training. Two interim audits, triage accuracy and pain management, were undertaken to determine if measures to improve timeliness had a negative impact on accuracy and quality.

The goals of the study were to improve our waiting times for triage in line with Irish EMP recommendations, to improve patient safety and patient experience; to improve triage accuracy and improve the process.

The project team embarked on a process of staff engagement where staff were invited to place their suggestions on a 'tree' board indicating where improvements could be made; a 12 hour activity follow of the triage nurse was conducted. The activity follow demonstrated that 42% of the triage nurses time was spent in indirect patient care, some necessary, some wasteful e.g. MAU referrals, trying to locate trollies/cubicles, dealing with interruptions and duplication of notes/handovers. Combined themes from both activities were utilised to guide a number of quality improvement PDSA cycles.

Whilst we did see a positive reduction in average waiting times over a five month period, November data has shown significant deterioration in compliance with national standards. This highlights the difficulty of sustaining improvement in light of significant challenges with over-crowding, staff turnover and staff

The project highlights the commitment of ED staff towards improving the quality and safety of service delivery. It also highlights the difficulties faced by ED staff in achieving recommended standards during times of overcrowding and limited resources. Whilst measures to date did sustain improvement for a number of months, our November figures demonstrate more will be required to sustain levels closer to desired standards.

#23426 : An Audit of Clyde Emergency Medicine and STAG guidelines on Open Fractures

Authors:

Maria Stokoe (1), Muhammad Patel (1)

1. , University of Glasgow, Glasgow, United Kingdom

Keywords: Emergency Medicine, STAG, Open Fractures, Audit

Abstract :**Introduction**

According to The Scottish Trauma Audit Group (STAG) Quality Indicators, patients with open limb fractures should receive antibiotic prophylaxis within one hour of attendance at A&E and within three hours of the injury. STAG guidelines are currently on version three and were last updated in September 2013.

Why antibiotics?

Many studies have proven the importance of prescribing antibiotic prophylaxis as soon as possible as it will reduce open fracture infection rates by a substantial amount. One in particular found that delaying the administration of antibiotics to 6 or 24 hours had a more profound effect than delaying surgery.

Methods

This retrospective study reviewed patients' medical notes who had experienced an open limb fracture anywhere except the hands and feet, in the time period of January 2018 to October 2018 and July 2019 to October 2019 at Royal Alexandra Hospital (RAH) and Inverclyde Hospital Emergency Departments in order to determine whether the management was in keeping with STAG guidelines. Data was collected after reviewing doctors notes and medication charts in inpatient records.

We documented the time of patients' arrival to the ED and the time when they received their first dose of antibiotics. In addition, we noted the triage category and the time the call for an ambulance was made, as this was the best indicator of time of injury. The main outcome was to assess if the hospitals were following the STAG guidelines. Sample size was limited those who attended the emergency department.

Results

Overall, 38.89% of patients who came to the emergency department were given antibiotics within the 1 hour of attendance target. 53.85% had antibiotics administered within 3 hours of injury time.

The average time of antibiotic administration from time of presentation either to the ED was 1 hour 28 minutes. This is considerably higher than the 1-hour guideline from STAG.

The average time of antibiotic administration from time of injury was 2 hours 54 minutes, which is within the three-hour recommendation.

Given these results, it can be concluded that the A&E departments failed to meet STAG guidelines.

Conclusion

The following are recommendations which could help staff to meet the 1-hour and 3-hour targets:

- Training for all staff on open fractures and current STAG guidelines
- STAG guidelines poster on walls around the emergency department
- Encourage paramedics to administer antibiotics at the scene of injury when getting IV access.
- Better documentation of injury details:

- Gustilo–Anderson Classification
- Accurate time of injury
- Accurate time of antibiotics administration
- Creating a proforma for staff to fill out and follow that covers the above documentation suggestions
- Follow up research to see if there are any changes in the proportion of patients who have been treated in accordance to the STAG guidelines

#23428 : A case of A Giant Abdominal Aortic Aneurysm**Authors:**

Sunel Odendaal (1), Suleiman Altayeb (1), Kiren Govender (2)

1. Emergency Department; Portiuncula University Hospital; Galway, Portiuncula University Hospital, Soalta Hospital Group, Ballinasloe, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta Univeristy Hospital Group, Galway, Ireland

Abstract :

Giant Abdominal Aortic Aneurysms are defined as having a diameter of more than 13cm. This is a case report of a patient presenting a 19cm AAA to the Emergency Department. Only few cases have been described in the literature before, this can be ascribed to the high rupture rate of 30-50% yearly.

A 93yo male presented to the Emergency Department with 1/7 history of left sided abdominal pain associated with nausea and vomiting. His medical history includes hypertension, heart failure, atrial fibrillation and diverticulosis. He was on Apixaban for his atrial fibrillation. Patient further had history of AAA for which he had EVAR (right to left fem-fem cross over) done in 2005 with realignment 2012. At his last review in the Vascular Surgery Clinic in October 2018, aneurysm size was 12 cm with stable endovascular leak. The decision was made at that time that the patient was not for any further surgical intervention after discussion with the patient and his family.

During the current presentation patient had persistent left sided abdominal pain despite analgesia. Vitals were stable with a blood pressure of 121/61, pulse 50, temperature 36.2 C, respiratory rate 20, saturation on room air 97% and blood glucose 8.2. Physical examination revealed patient to be jaundiced with mild pallor. On abdominal examination he was found to have a large, hard abdominal mass which was diffusely tender but non pulsatile. Laboratory tests showed haemoglobin 9.7 (13.3 – 16.7), haematocrit 0.310 (0.390 – 0.5), platelets 126 (144 – 138), International Normalised Ratio 1.3, Total Bilirubin 46 and C Reactive Protein 30.2. A CT Abdomen revealed a massive abdominal aortic aneurysm measuring up to 19cm in diameter with high density fluid adjacent to the aorta suggestive of an acute leakage. His scan was discussed with the vascular surgery team at the University Hospital the decision was made that the patient was not for surgical intervention, patient and his family was counselled regarding the expected course of his disease. He was treated for his persistent pain and referred for Palliative treatment. The patient was discharged into the care of his family. He passed away 5 days after discharge.

Endovascular repairs of abdominal aortic aneurysm (AAA) and endoleaks have been reported in 20 to 50% of patients. It is usually diagnosed with CT on regular follow up or completion CT arteriography immediately after EVAR. Management of Endoleaks can be difficult and challenging. Intervention is not warranted for endoleak persistence alone.

This is a unique case of a patient with known endovascular leak following initial EVAR in 2005 and revision in 2012. His last scan showed AAA increased to 12cm. He now presented with a giant AAA measuring 19cm following acute leakage. Despite this the patient was haemodynamically stable and only complaining about abdominal pain. Given the long time the patient survived despite the ongoing endoleak, more considerations should be given to the expectant management of endoleak following EVAR for AAA instead of intervention.

#23429 : Emergency Airway Management. A multi-site survey of Irish Emergency Departments**Authors:**

ITERN Collaborators (1)

1. , Irish Trainee Emergency Research Network, Dublin, Ireland

Keywords: airway, collaborative, research network, survey

Abstract :**Introduction**

Emergency Airway Management (EAM) has now become an integral part of core and advanced specialty training in Emergency Medicine (EM) in Ireland. Although EAM is frequently performed in Emergency Departments (EDs) today, there is a paucity of literature on airway management in Irish settings. The aim of this study was to assess the resources and infrastructure in Irish EDs in relation to EAM. This study was facilitated by the Irish Trainee Emergency Research Network (ITERN) as part of an overall airway project entitled the National Emergency Resuscitation and Airway Audit (NERAA).

Methods

ITERN recruited sites in Ireland to participate in NERAA. A survey was then distributed to each site and data including site demographics, airway equipment, airway trolley and airway training data was extrapolated. The survey data was handled by Google forms™.

Results

A total of 15 ED sites were enrolled. 86.7% of these sites (n=13) were designated as training site for the National Emergency Medicine Training Program. Eighty six percent of sites (n=13) had a rapid sequence induction (RSI) checklist in the ED. Seventy three percent(n=11) had a video laryngoscope available in ED and all sites had one available in their respective hospitals. The brand of ventilator in each ED varied with 40.0% of sites (n=6) using an Oxylog, 20.0% (n=3) using a LTV, 13.3% (n=2) Draeger, 13.3% (n=2) Hamilton, 6.7% (n=1) Phillips and 6.7% (n=1) Maquet. Regarding simulation training in ED, 33.3% (n=5) sites have ran RSI or airway simulations in the past 6 months. 80.0% (n=12) of sites had a difficult airway trolley in ED with 91.7% (n=11) having a checklist for contents and 50% (n=6) of these trolleys having a difficult airway algorithm to refer to.

Conclusion

This site-survey is the first multi-site analysis of airway management in Irish EDs. This study also highlights the feasibility of a research network to perform multi-site data collection and in this case, provide a summary of current airway practices in Irish EDs. This study shows that there is variation between EDs regarding brand of ventilator used and that the majority of EDs have an RSI checklist and a video laryngoscope in the ED. Particular points of focus relating to EM training are that only one third of sites have ran an RSI or airway simulation in the past 6 months. The findings of this study could provide a vector for the development of national standard for EAM in Ireland.

#23430 : Departmental staff mental health and wellbeing during SARS-Cov-2 pandemic**Authors:**

Fiona Preston (1), Aimee Thompson (2), Claire McGroarty (2), Alan Whitelaw (2)

1. Accident & Emergency, NHS Greater Glasgow & Clyde, Near Ayr, United Kingdom
2. Accident & Emergency, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Keywords: emergency medicine, wellbeing, mental health, team, Covid-19

Other

Patient images are not involved

Abstract :

Staff mental health has become the forefront of emergency medicine. The importance of developing a

strong, resilient team and supporting the wellbeing of staff was highlighted during the recent

SARS-Cov-2 pandemic. During these unprecedented times, it became apparent that to ensure

staff and patient safety, the promotion of working as a cohesive and well rehearsed team was paramount,

as well as ensuring every member of our team were supported and sign posted to appropriate services.

Our established Wellbeing Team faced specific challenges during the SAR-Cov-2 pandemic, focusing on

staff mental health. Interventions included: small group sessions to appropriately use PPE; a Rest and

Relaxation Area; Daily updates ensuring staff safety, with sign-posting to mental health services and

buddy systems for re-deployed staff and juniors. We procured donations from businesses of food, toiletries

and a coffee machine. Apps were used to create chat forums. We raised money for foodbanks and

created a video for social media.

Staff cannot safely look after themselves, patients, or colleagues, if they feel unsupported.

Our interventions promoted a sense of belonging to our 'work family,' tackling feelings of stress and

anxiety. Staff faced morale challenges, but felt empowered to seek help, thus recognising their wellbeing

was paramount.



#23431 : Improving Procedural Sedation Practice in the Emergency Department. A Quality Improvement Project

Authors:

Etimbuk Umana (1), Darren Smith (1), Philip Darcy (1), Alison Sheehan (1)

1. Emergency Department , Connolly Hospital Blanchardstown, Dublin, Ireland

Keywords: Procedural Sedation, Proforma, ADKAR

Abstract :

Background:

Procedural sedation (PS) is commonly used in the Emergency Department (ED) to relieve patients' anxiety and facilitate their co-operation for a potentially painful procedure such as manipulation of a fracture or dislocation. The Royal College of Emergency Medicine (RCEM) has published audit standards for PS being performed to ensure patient safety and mitigate risk.

Baseline data showed that average compliance to the RCEM standard across the 7 domains was 43%. A SWOT analysis showed the proforma used for PS was dated to 2009 and there was no PS guideline.

Stakeholder engagement took place and SMART aim was developed to Improve quality and safety of PS, using the RCEM standards to achieve 70% documentation in all domain within a 2-month period.

Method

The ADKAR (Awareness, Desire, Knowledge, Ability & Reinforcement) change management model along with national and local audit model to test the changes implemented were used for this Quality Improvement Project (QIP). A driver diagram was used to set out interventions needed from the SMART aim generated.

A PS proforma, patient discharge advice leaflet and PS guideline were created. Engagement with both stakeholders and staff took place throughout the project in the educational sessions, shop floor teaching, emails, work chat communication and poster board displays.

Results

After the initial audit in October 2019, the first and second audit cycles occurred in January and February 2020, respectively. There was increase average compliance of RCEM standard for PS from 43% in the initial audit cycle to 89% in the third audit cycle. PS proforma use improved from 54% (n=7/13) to 93% (13/14) after the third audit cycle. Safety checklist compliance was 0% (n=0/14) in the initial audit and improved to 86% (n=12/14) by the third audit cycle.

Conclusion

This QIP has led to the improvement in patient care by increased compliance with the RCEM standards for PS. This QIP underpins the importance of changing a system through QI and not just quality assurance. Further audit cycles are planned, and measures put in place to ensure sustainability of the project.

Trial Registration / Funding Information (only) :

No Funding

#23433 : Staff mental health and wellbeing - a survey in the emergency department at the queen elizabeth university hospital

Authors:

Fiona Preston (1), Aimee Thompson (2), Claire McGroarty (2), Alan Whitelaw (2)

1. Accident & Emergency, NHS Greater Glasgow & Clyde, Near Ayr, United Kingdom

2. Accident & Emergency, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Keywords: emergency medicine, team, wellbeing, mental health, pandemic

Abstract :

Background: Staff mental health and wellbeing is now at the forefront of the medical profession. This was highlighted in the recent GMC report 'Caring for Doctors Caring for Patients,' which showed that almost 25% of trainees reported high levels of burn-out, with physicians working in Emergency Medicine having a considerably higher rate of burn-out than other specialties. Improved staff wellbeing promotes a safer environment for both staff and patients. The main aim of our study was to establish how supported members of the multi-disciplinary team were whilst working in a busy urban emergency department.

Methods: An initial online survey was distributed to all members of staff via social media and email cascade. This was open for 7 days (from 21/08/2019 - 28/08/2019) and there were 87 responses. 10 questions were used to assess baseline staff morale. The following interventions were then implemented: team activities out-with work; food-themed days; buddy systems established, wellbeing education sessions, a team Christmas video created and several social media pages created. A second survey received 38 responses. This followed the same format and 7 day duration (from 07/01/2020 – 14/01/2020), but had modified questions. Every member of our emergency department team was invited to participate, regardless of role. Participation was optional.

Results: 74% of staff felt their individual wellbeing at work had improved, and 53% felt team morale had improved after the interventions.

92% of staff felt the Wellbeing Social Media accounts had had a positive impact on promotion and education of staff wellbeing

More staff reported suffering from burn-out symptoms (increase of 38% to 50%)

Less people felt able to approach an appropriate member of the team (from 83% to 63%)

53% of staff did not feel a valued member of the team, with the majority of these respondents being doctors.

Discussion: The education around the importance of individual and team wellbeing within an emergency department is paramount in promoting patient and staff safety. Our second survey was distributed shortly after our junior doctors had commenced their new rotation, and may account for the increased number of staff feeling undervalued and also the increase in staff reporting burn-out symptoms. During the current SARS-Cov-2 Pandemic, the sense of team has never been so great nor so vital. Our aim is to redistribute this survey once this pandemic is over, and determine whether the introduction of a dedicated Wellbeing Team successfully helped our department during this challenging time, whilst also ensuring the protection and support of every team member.

#23434 : Chest Pain Assessment Unit Outcomes in Elderly Patients Presenting to the Emergency Department (COEPED Study)**Authors:**

Etimbuk Umana (1), Nicola Mulrooney (1), Ken Maleady (2), Alison Sheehan (1)

1. Emergency Department , Connolly Hospital Blanchardstown, Dublin, Ireland
2. Cardiology Department, Connolly Hospital Blanchardstown, Dublin, Ireland

Keywords: Chest pain assessment units, Percutaneous coronary intervention, HEART, Exercise stress test

Abstract :

Background

The importance of chest pain assessment units (CPAU) in the Emergency Department (ED) is not a new concept. Facilitating rapid, diagnostic treatment within an agreed protocol/pathway facilitates safe early discharge which has helped reduce hospital admission and cost. The outcomes of elderly patients assessed in the CPAUs remains largely unknown. The purpose of this study was to evaluate the outcomes of patient's age > 60 years assessed in the CPAU in a Dublin based urban ED.

Method

We conducted a retrospective cohort study of all patients age > 60 years presenting with chest pain to ED and subsequently assessed in the CPAU at Connolly Hospital from September to October 2018. Data was retrieved using the CPAU registry, Symphony system and patient charts. Main outcomes assessed were percutaneous coronary intervention (PCI) rate, medication changed and 30-day ED re-attendance rate.

Results

A total of 59 patients were identified. The median age was 68 (range: 60-84) with the majority being females (56%). In terms of risk factors, 61% had a smoking history, 54% were hypertensive, 19% were diabetics, 68% had dyslipidaemia, 31% had an increased BMI and 15% had existing coronary artery disease. Eighty percent of patients had normal ECG's, while 17% were non-diagnostic and 3% were abnormal. Only 3% of patients had elevated troponin. The median HEART score was 4 (Range: 1-6). Eighty-one percent of patients completed an exercise stress test (EST), 19% were positive, 54% negative, 7% submaximal and 1% reported as inconclusive. Regarding outcomes, the PCI rate was 5%, 39% of patients had their medications adjusted and only 3% of patients re-attended ED with chest pain within 30 days.

Conclusion

Despite moderate HEART scores, there was a low rate of PCI and re-attendance in this cohort. CPAU provides reliable assessment for elderly patient presenting with chest pain to ED.

Trial Registration / Funding Information (only) :

None

#23435 : National Emergency Resuscitation Airway Audit (NERAA) of Emergency Departments in Ireland**Authors:**

Etimbuk Umana (1), James Foley (2), Irene Grossi (3), Francis O'Keeffe (4), Conor Deasy (5), ITERN Collaborators (6)

1. Emergency Department , Connolly Hospital Blanchardstown, Dublin, Ireland
2. Emergency Department , Waterford University Hospital, Waterford, Ireland
3. Emergency Department , University Hospital Limerick, Limerick, Ireland
4. Emergency Department , Mater Misericordiae University Hospital, Dublin, Ireland
5. Emergency Department , Cork University Hospital, Cork, Ireland
6. ITERN, Irish Trainee Emergency Research Network, Dublin, Ireland

Keywords: Emergency airway management, airway registries, intubation

Abstract :

Background

Over the last few decades Emergency Medicine (EM) has rapidly evolved in Ireland. Emergency airway management (EAM) is an integral component of management of the critically unwell patient and historically has been performed by Anaesthesiologists. Although EAM is frequently performed in Irish Emergency Departments (ED) today, there is a paucity of literature on why and how patients are intubated, and by whom. ED airway registries exist in some countries including the National Emergency Airway Register (NEAR) in the USA, which has been collating data for over a decade and this provides vital information on airway practices and guides clinical practice development. The aim of this study was to characterise EAM of critically unwell patients in Irish EDs.

Methods

A multisite prospective audit was undertaken from February to April 2020. This project was facilitated through the Irish Trainee Emergency Research Network (ITERN). All patients > 16 years of age requiring EAM were included. Over 15 academic and community EDs participated in the ongoing project. Data were entered in real time by the intubator using a standardised data form (Emergency Medicine Airway Registry Ireland (EMARI) document). The data form included patients' age, gender, indication for intubation, technique of airway management, names and dosages of all medications used to facilitate intubation, level of training and speciality of the intubator, number of attempts, success or failure, and adverse events.

Results

Seventy-five patients were enrolled to the audit over a 2 and half month period. The median age was 60 years (Range: 18 - 90). The most common indication for intubation was altered mental status at 35% (n=24), followed by Cardiac Arrest 29% (n=22) and Head Injury with threatened airway 17% (n=13). Anaesthesiologists / Intensive care doctors performed 53% (n=40) of intubations, while EM doctors performed the remainder 47% (n=35). Emergency intubation check lists were used in 44% (n=33) of patients. First pass success intubation occurred in 88% (n=66) attempts. Intubation complications occurred in 16% (n=12) of patients.

Discussion

Just under 50% of intubations were performed by EM doctors due to a myriad of indications. This implies substantial involvement of EM doctors of registrar or consultant grade in EAM across Ireland. The first pass success rate and complication rates were in keeping with current literature.

This is the first study to describe airway practice in Irish EDs. This project was also the ITERN inaugural project and showed how EM doctors in training could collaborate across multiple sites to provide meaningful benchmarking research. It is anticipated that the NERAA project will provide the platform for development of a national airway registry for Ireland.

Trial Registration / Funding Information (only) :

None

#23436 : An audit into the investigation of patients presenting to the emergency department with unexplained haematuria

Authors:

Hannah Gilchrist (1), Jessica Cooper (2), Monica Wallace (3)

1. , , Glasgow, United Kingdom

2. General Practitioner, NHS Highland, Glasgow, United Kingdom

3. Consultant in Emergency Medicine, NHS Greater Glasgow & Clyde, Glasgow, United Kingdom

Abstract :**Background:**

Patients with unexplained haematuria commonly present via the Emergency Department. With cancer accounting for around one third of patients with painless haematuria, it is important that patients are investigated promptly. Lack of a clear referral pathway means that some patients are admitted for investigation while others are referred for outpatient investigation, either directly by the Emergency Department (ED) or via General Practice (GP). We carried out a retrospective analysis of adult patients presenting with unexplained haematuria to the ED of two NHS Greater Glasgow & Clyde (NHS GGC) hospitals over a one-year period, with the aim of identifying any improvements to current practice.

Methods:

In this retrospective cohort study, data was obtained for adult ED presentations at the Royal Alexandra Hospital and Inverclyde Royal Hospital during a one-year period from January 2019 until December 2019. Patients discharged with the diagnosis code "haematuria – unexplained" were included. Where patients had multiple presentations, only the first was included. Relevant data was collected from the NHS GGC Trakcare and Clinical Portal IT systems. The patients were then classified into groups according to patient age (i.e. > 45 years) and type of haematuria (i.e. visible or non-visible) to allow comparison with the Scottish Referral Guidelines for Suspected Cancer. The data collected was analysed to identify the proportion of cases where patients underwent appropriate investigation, and whether cases were referred for investigation within the recommended timeframe. Mean waiting times for patients requiring urgent outpatient investigation within two weeks were calculated and compared for ED and GP referrals. An unpaired T test was then carried out to determine whether there was a significant difference between the two groups.

Results:

Unexplained haematuria was identified in 159 patients who presented to the RAH and IRH over a one-year period. 128 patients (80.5%) were male and 31 (19.5%) were female. The mean age at presentation was 69 years. 64% of patients were investigated in accordance with the guidelines; 28% were referred appropriately but investigated out with the recommended time period; 8% were not investigated in accordance with the guidelines. 36 patients aged > 45 with unexplained visible haematuria required referral for investigation within two weeks as recommended. 27 (75%) were referred via ED and waited an average 36 days; while 9 (25%) were referred via GP and waited an average 35 days. There was no significant difference between waiting time following ED and GP referral ($P=0.92$).

Discussion & Conclusions:

The majority of patients were referred for investigation in accordance with the guidelines. However, most patients requiring urgent referral were seen out with the recommended two weeks. Further exploration into potential reasons is required to help improve waiting times for outpatient investigation. No significant difference was noted in waiting time between referral via ED and GP, although a small minority of patients were not followed up as recommended when discharged from ED for GP referral. We therefore recommend that patients requiring outpatient investigation are referred directly via ED to help ensure that all patients are referred for investigation, where necessary.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding.

#23454 : Does a proforma perfect paediatric elbow radiograph reports? Original research report.

Authors:

Lisa Dann (1), Carol Blackburn (2), Michael Barrett (3), Tom Beattie (4)

1. , CHI at Crumlin, Dublin, Ireland
2. Children's Health Ireland at Crumlin, Dublin, School of Medicine, University College Dublin, Dublin, Ireland
3. Children's Health Ireland at Crumlin, Dublin, National Children's Research Centre, Dublin, Dublin, Ireland
4. , University of Edinburgh, Edinburgh, United Kingdom

Keywords: paediatrics, elbow, radiology, radiographs, reports

Abstract :

Does a proforma perfect paediatric elbow radiograph reports? Original research report.

L Dann^{1,2}, C Blackburn^{1,4}, M J Barrett^{1,3,4}, T Beattie²

1. Children's Health Ireland at Crumlin, Dublin
2. University of Edinburgh
3. National Children's Research Centre, Dublin
4. School of Medicine, University College Dublin

Background:

Interpretation of elbow x-rays is an important and frequently encountered area of injury assessment and may result in lifelong morbidity if fractures are missed. Studies have demonstrated that there are more errors when interpreting paediatric images and when the interpretation is performed "out of hours". Studies have also demonstrated that inaccuracies in x-ray interpretation by trainee doctors may result in mismanaged fractures. We introduced a structured proforma to improve trainee reporting of elbow radiographs and aimed to evaluate its effect on the quality of reporting amongst trainee doctors.

Outcome Measure:

To evaluate the effect of a structured proforma on quality of reporting of elbow x-rays amongst trainee doctors.

Methods:

Trainee doctors in a paediatric emergency department of a tertiary paediatric hospital were recruited for this evaluative study. Over a single educational session trainees reported 10 elbow x-rays. These were reported initially on blank paper and then using the structured elbow proforma (same images, different order).

Reports were scored from 0-10 with 10 being the highest achievable score. Marks were awarded for mentioning important aspects of the image, e.g. presence/absence of fat pads. Descriptive statistics were used where relevant and appropriate. Paired t-tests were used to compare pre and post proforma results. A p-value of <0.05 was selected as statistically significant.

Results:

Thirteen trainees took part in the study. The median report scores before and after the proforma were 1 (IQR 0, 2) and 10 (IQR 10, 10). Overall there was a median increase in reporting score of 8 (IQR 8, 8). [T value 44, and two-tailed p <0.001].

Discussion:

Many hospitals use proformas for various tasks but there is limited published evidence of their use in x-ray interpretation. The authors propose this study is the first to analyse the impact of a proforma on reporting of paediatric elbow radiographs. Results demonstrate that the use of a structured proforma greatly improves the quality of reporting. Results were consistent among all grades and types of trainees. Strengths of this study are its originality, variety of trainees recruited and the consistent results demonstrated. Limitations are the small participant numbers and the single site nature of the study undertaken.

Conclusion:

This study demonstrates that the introduction of a structured proforma for reporting paediatric elbow radiographs can significantly improve the quality of radiograph reporting among all levels of trainees. A larger multi-centre study is required to validate the results of this study and assess if it has an impact on fracture identification.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding. Ethical approval granted from local ethics committee on 10th December 2019.

#23458 : Lung ultrasonography features and risk stratification in COVID-19 patients: a prospective observational cohort study**Authors:**

Olivier Hugli (1), Thomas Brahier (2), Jean-Yves Meuwly (3), Olivier Pantet (4), Mary-Anne Hartley (5), Noémie Boillat-Blanco (2)

1. Emergency Department, Lausanne University Hospital, Lausanne, Switzerland
2. Infectious Diseases Service, Lausanne University Hospital, Lausanne, Switzerland
3. Department of Radiology, Lausanne University Hospital, Lausanne, Switzerland
4. Service of Adult Intensive Care Medicine, Lausanne University Hospital, Lausanne, Switzerland
5. Center for primary care and public health, University of Lausanne, Lausanne, Switzerland

Keywords: COVID-19, SARS-CoV2, lung ultrasonography, risk stratification, emergency department

Abstract :

Background: Chest imaging is a key tool for the management of COVID-19 patients in the emergency department (ED). A correlation between chest CT features and COVID-19 severity has been demonstrated, suggesting a potential use as a triage tool. However, systematic chest CT in COVID-19 patients may overwhelm available resources during an outbreak, and is costly and associated with a high risk of nosocomial infections. Point-of-care lung ultrasound (LUS), already widely used in EDs, can be performed at the bedside of patients requiring protective isolation. However, data on its use for early risk stratification of COVID-19 ED patients is lacking. This study describes and compares early LUS characteristics across of range of clinical outcomes.

Methods: Prospective observational study of consecutive PCR-confirmed COVID-19 patients in the ED of Lausanne University Hospital. LUS images were recorded within 24 hours of ED presentation using a standardized protocol, according to the “10-zone method”, with five zones per hemithorax (anterior-superior, anterior-inferior, lateral, posterior-superior, posterior-inferior). For every zone, the following patterns were reported and graded with a 0 to 3 points score: (1) normal appearance (A lines, < 3 B lines) = 0 points, (2) pathological B lines (≥ 3 B lines) = 1 point, (3) confluent B lines = 2 points, (4) thickening of the pleura with pleural line irregularities (subpleural consolidation < 1 cm) or (5) consolidation (≥ 1 cm) = 3 points. Each patient’s normalised score (nLUS score) was the sum of the graded points at every zone (possible range from 0 to 30 points) divided by the number of examined zones. Two experts, blinded to patients’ outcome, retrospectively reviewed all images. LUS images were described and compared between patient groups based on their outcome on day 7 after inclusion, defined as: 1) self-resolving outpatients, 2) hospitalised, and 3) intubated/death. nLUS score was used to discriminate between groups.

Results: Between March 6 and April 3 2020, 80 patients were included (18 outpatients, 41 hospitalized and 21 intubated/dead); 73 patients (91%) had abnormal LUS (72% outpatients, 95% hospitalised and 100% intubated/death; $p=0.004$). The proportion of involved zones was lower in outpatients compared with other groups (median 30% [IQR 0-40%], 44% [33-70%] and 70% [50-88%], $p<0.001$). Predominant abnormal patterns were bilateral and multifocal thickening of the pleura with pleural line irregularities (70%), confluent B lines (60%), and pathological B lines (50%), affecting more often the posteroinferior zones. Median nLUS score was 0.45 (IQR 0.2, 0.8), 1.1 (IQR 0.62, 1.7) and 1.5 (IQR 1, 2) ($P<0.001$), with an area under the ROC curve of 0.81 (95% CI

0.70-0.92) between outpatients and the two others categories.

Conclusion: Our study shows that, in COVID-19 patients presenting at EDs, LUS using standardized procedures for acquisition and reporting, correlated to disease severity. A simple ordinal scoring system has the potential to discriminate patients requiring hospitalisation and thus better allocate scarce resources. LUS is a reliable, cheap and easy-to-use triage tool to decide on hospital admission. Although promising, the use of LUS for early risk stratification requires further studies with a larger sample size

Trial Registration / Funding Information (only) :

Swiss Ethics Committee of the canton of Vaud (CER-VD 2019-124 02283) / Funding Leenaards Foundation

#23460 : Low back pain in the emergency department: a challenging differential diagnosis.

Authors:

Filomena Scarano (1), Giuliano Gagliardi (2), Lorenzo Colucci (2), Biagio Gagliardi (3)

1. Department of Advanced Medical and Surgical Sciences, University of Campania "L. Vanvitelli", NAPLES, Italy
2. Department of Radiology, AORN S.G. Moscati, avellino, Italy
3. Department of Radiology, AORN S.G. Moscati, Avellino, Italy

Keywords: low back pain, spondylodiscitis, tuberculosis.

MRI scans

Patient images are not involved

Abstract :

Submission title: Low back pain in the emergency department: a challenging differential diagnosis.

Nature of the image: RMI SCAN

Brief clinical details

A 27-year-old man, immigrated from Ghana in 2016, was admitted to our Emergency Department for low back and abdominal pain. He complained of a long-standing history of lower back pain, weight loss and "body pain". He also referred multiple medical consultations in the past months which failed to solve the problem. The patient was awake, afebrile and vitals were stable. He was recumbent on the lateral right side and hyposthenia of the lower limbs was found during the physical examination.

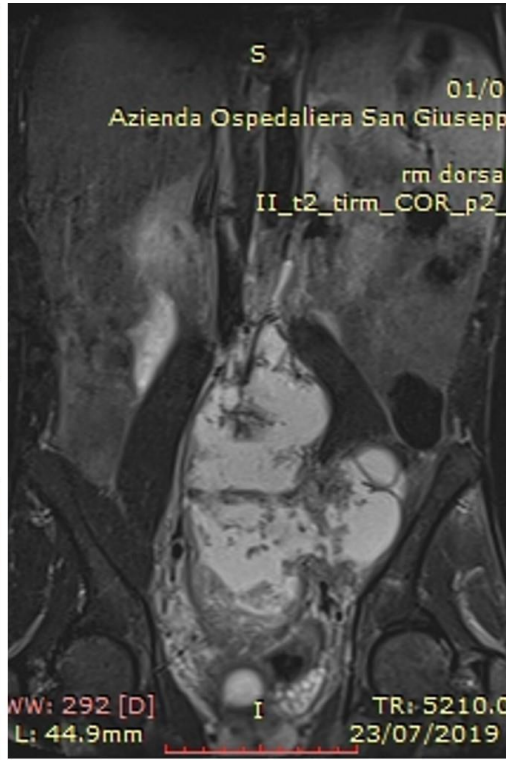
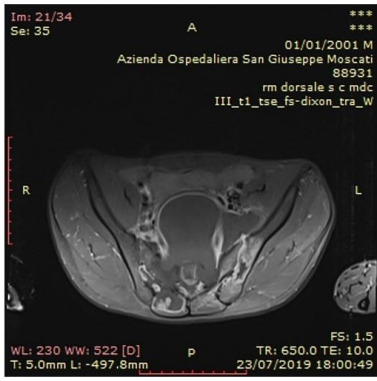
Description of the relevant abnormalities:

Voluminous pre-vertebral fluid collection extending from L3 to S5. It invades dorsally the vertebral canal and determines a fistula which extends to the subcutaneous tissue of the left gluteal region. The image illustrates signs of spondylodiscitis involving mainly L5-S1 where it is possible to observe the interaction between the fluid collection and the center of the disc. Furthermore, the infective process involves the sacroiliac joints bilaterally, with bone edema and articular fluid collection, the left ileopsoas and the paravertebral muscles. The microbiological analysis of the fluid collection revealed the positivity for Mycobacterium Tuberculosis.

Why is this image clinically or educationally relevant?

Several life-threatening diagnoses must be considered in a patient with lower back pain. However, up to 90% of low back pain presentations in the emergency department are due to benign causes and the diagnosis of emergent pathologies is still a big challenge for the emergency physician, especially in those settings of limited access to radiological imaging.

The patient has given consent to have details submitted and anonymity is ensured.



#23463 : Association of lopinavir/ritonavir, hydrossyclochlorine and enoxaparin in adults hospitalized with severe COVID19: an open label non randomized non controlled trial

Authors:

Vincenzo G Menditto (1), Milena Pennacchioni (2), Vincenzo Zaccone (2), Lorenzo Nobili (2), Novella Piersantelli (2), Leone Furbetta (2), Matteo Marcosignori (2), Francesca Vagnoni (3)

1. Emergency Department, Ospedali Riuniti di Ancona, Ancona, Italy
2. Department of Emergency and Internal Medicine, Ospedali Riuniti di Ancona, Ancona, Italy, ANCONA, Italy
3. U.O.C. Farmacia, Ospedali Riuniti di Ancona, Ancona, Italy, ANCONA, Italy

Keywords: COVID19, therapy; severe pneumonia

Abstract :

Background Data to support the use of lopinavir /ritonavir, hydrossyclochlorine and enoxaparin for COVID-19 are limited. The association of these drugs has not been described till now.

Methods We treated hospitalized patients with confirmed SARS-CoV-2 infection who had an oxygen saturation of 94% or less while they were breathing ambient air or who were receiving oxygen support. We provided a 10-day course of combination therapy: lopinavir-ritonavir and hydroxiclorochine on a compassionate-use basis and prophylactic dose of enoxaparin. This report is based on data during the period from March 9, 2020, through April 9, 2020.

Results 41 patients received the combination therapy. At baseline, 23 patients (56%) were receiving oxygen support and 18 (44%) were receiving non-invasive positive pressure ventilation. During a follow-up of 28 days, 29 patients (70%) had an improvement in oxygen-support class, including 3 of 4 patients receiving mechanical ventilation who were extubated. A total of 27 patients (66%) were discharged, and 9 patients (22%) died; mortality was 0% among patients receiving oxygen support and 50% among those receiving non-invasive positive pressure ventilation.

Conclusions In our cohort of patients hospitalized for severe Covid-19 who were treated with compassionate-use lopinavir-ritonavir and hydroxiclorochine plus prophylactic dose of enoxaparin, clinical improvement was observed in 29 of 41 patients (70%). Randomized controlled trials of this combination therapy are needed.

Trial Registration / Funding Information (only) :

/

#23464 : Feeling of emergency physicians faced with end-of-life situations in pre-hospital

Authors:

Hakim Slimani (1, 2), Charles Eric Lavoignet (3), Benoit PARIS (4)

1. Urgences- SMUR , Hôpital Nord France Comté , Belfort, France
2. Urgences, Hôpitaux Universitaires de Strasbourg. Hôpital Hautepierre , Strasbourg, France
3. Urgences, Hôpital Nord Franche Comté, Belfort, France
4. Urgences SMUR, Hôpital Nord Franche Comté, Belfort, France

Keywords: end-of-life situations; pre-hospital

Abstract :

Introduction: emergency physicians are frequently faced with end-of-life situations in pre-hospital care and the number of these situations will increase in the years to come. These situations have an important psychological impact but still little studied. The purpose of this study is to analyze the feelings of emergency doctors in Franche-Comté faced with the situation of life in pre-hospital.

Material & methods: an anonymous questionnaire of 25 multiple choice questions was sent by email at the beginning of 2020 to doctors practicing at emergency services in Franche-Comté. These questions assessed feelings about end-of-life situations.

Results: out of the six Franche-Comtois hospitals, 69 doctors responded 57 seniors and 12 interns. Eighty-three percent of seniors had been exposed at least once to an end-of-life situation requiring comfort care during 2019. Among these doctors, 28% felt transient discouragement. Ninety-five percent of seniors were exposed at least once to violent death in pre-hospital during the same year, among these doctors 40% felt transient discouragement. Sixty percent of seniors wanted to verbalize after the fact. Forty five percent of seniors thought they were not sufficiently trained in end-of-life management.

Conclusion discussion: The pre-hospital end-of-life situations have a significant psycho-logical impact on emergency physicians. This impact should be assessed over the long term. At the end of this study we propose the establishment of a file as a tool allowing a traceability of limitation or stopping of active therapies in prehospital

#23465 : Pneumorachis associated with pneumomediastinum Spontaneous: A Benign Clinical Entity**Authors:**

Hakim Slimani (1, 2), Charles Eric Lavoignet (3), Benoit PARIS (4)

1. Urgences- SMUR , Hôpital Nord France Comté , Belfort, France
2. Urgences, Hôpitaux Universitaires de Strasbourg. Hôpital Hautepierre , Strasbourg, France
3. Urgences, Hôpital Nord Franche Comté, Belfort, France
4. Urgences SMUR, Hôpital Nord Franche Comté, Belfort, France

Keywords: pneumomediastinum Spontaneous

Abstract :

A 27-year-old patient went to the emergency room for an atypical respiratory-like chest pain associated with cervical subcutaneous emphysema that occurred a few hours after carrying a heavy load. The patient had an allergic asthma as the only history. On admission, the patient was hemodynamically and respiratory stable. The visual analog pain scale is rated 5/10. The clinical examination objected to a discreet superficial polypnea with a respiratory rate of 22 cycles / minute. Palpation found a predominant subcutaneous emphysema in the anterior cervical region with characteristic snow crackles. The rest of the exam was normal. The biological assessment did not show any abnormality, in particular no inflammatory syndrome. The frontal radiothoracic confirmed the existence of a pneumomediastinum associated with a subcutaneous cervical emphysema. The cervico-thoracic CT scan confirms the presence of air over the entire height of the mediastinum associated with a pneumorachis and a subcutaneous emphysema of the cervical soft tissue. However, there was no involvement of the esophageal or tracheal wall. In the absence of criteria for clinical severity, the patient benefits from simple clinical monitoring for 96 hours. The evolution was favorable and the clinical and radiological signs improved. The patient is seen a week later, in a pneumological consultation, completely asymptomatic with a strictly normal chest X-ray.

Spontaneous pneumomediastinum is defined as the presence of air in the mediastinal structures with no obvious cause. Its incidence is between 0.01% and 0.001% of the patients seen at the hospital. The mechanism most often provided in the literature is that of endo-bronchial hyperpressure with closed glottis, which would be responsible for an alveolar rupture near the vascular septas. It can be complicated by a pneumorachis, usually little or not symptomatic, when the air enters the epidural spaces through the conjugation pants. The clinical presentation is not very specific, however the presence of dysphagia and / or dyspnea must call into question the spontaneous nature of pneumomediastinum. The positive diagnosis is made by the radiography of the face which has met with evidence of an air border along the left edge of the cardiac silhouette and of hyperclaritys under the skin of the cervical region. The natural evolution is towards healing in 48 to 96 hours. Recurrences are rare and complications are exceptional. Knowing how to recognize this entity makes it possible to distinguish the assembly from the secondary pneumomediastins and thus avoid the patient an inadequate medical care.

Attachment: Image.docx

#23466 : A case report of bilateral quadriceps tendon rupture

Authors:

Miguel Jose Ribeiro Da Costa (1), Natalie Strachan Murray (1)

1. Chelsea and Westminster Hospital NHS Foundation Trust, West Middlesex University Hospital, London, United Kingdom

Keywords: Tendon injury, Quadriceps

Abstract :

Patient consent obtained.

Brief clinical history

A 63-year-old male was brought to the Emergency Department (ED) with suspected bilateral patella dislocation. While stepping out of a water pond requiring a leg elevation of approximately 18 inches, his right leg gave way and whilst placing his left leg out to catch himself, it too gave way. He described a 'snap' followed by bilateral anterior thigh pain.

His history preceding the event was unremarkable; he denied previous leg pain or injury and he had not sustained any dislocations or tendon injuries in the past. He had no past medical history, including no regular medication and no allergies. He worked as a refrigerator repair technician; notably this involved spending long hours on his knees. He was a current smoker with a 20 pack/year history and consumed two units/day of alcohol and denied using illicit drugs.

On examination his observations were normal. He had a slightly raised body mass index (BMI) of 25.7kg/m². Both patellas were central and not displaced with a distinct palpable gap superior to the patellas which was made more prominent with attempted quadriceps contraction. He was unable to perform knee extension. Otherwise, he had a normal neurovascular examination in both lower limbs; plantarflexion and dorsiflexion of both ankles were intact. Other systems were unremarkable on examination and no other injuries were identified. A bilateral quadriceps tendon rupture (BQTR) was suspected and supported by x-ray findings. He was subsequently referred to orthopaedics who confirmed the diagnosis.

Misleading elements

A diagnosis of tendon rupture was initially not considered as the primary diagnosis given that the mechanism of injury was of minimal trauma in a previously fit gentleman. Quadriceps tendon rupture in itself is a rare diagnosis, and the presentation of bilateral rupture is exceedingly rare. The patient had none of the recognised risk factors for BQTR which include obesity, diabetes and chronic renal failure.

Helpful details

The crucial factors that lead to the correct final diagnosis for this unusual presentation were a thorough examination, keeping wide differential diagnoses and x-ray imaging confirming BQTR.

Differential and actual diagnosis

The paramedics initially suspected bilateral patella dislocation. Other differential diagnoses included patella fracture, tendon or ligamentous injury. The final diagnosis was confirmed intraoperatively as complete BQTR.

Educational and clinical relevance of the case

BQTR is often missed, leading to delayed surgical repair and a poorer prognosis. Magnetic resonance imaging (MRI) is recognised as the gold standard imaging modality for tendon rupture however in ED, ultrasound (US) is readily accessible and also offers a high sensitivity. Whilst there are recognised risk factors, it is important to keep in mind that the presentation of BQTR often occurs with minimal trauma in previously well patients.

#23468 : TWIDDLER syndrome; an exceptional cause of discomfort

Authors:

Hakim Slimani (1, 2), Charles Eric Lavoignet (3), Benoit PARIS (4)

1. Urgences- SMUR , Hôpital Nord France Comté , Belfort, France
2. Urgences, Hôpitaux Universitaires de Strasbourg. Hôpital Hautepierre , Strasbourg, France
3. Urgences, Hôpital Nord Franche Comté, Belfort, France
4. Urgences SMUR, Hôpital Nord Franche Comté, Belfort, France

Abstract :

A 78-year-old patient was admitted to the emergency room for malaise. Her main story was a rhythmic heart disease, for which the patient had benefited from the implantation of a double chamber pacemaker (6 months earlier). The clinical examination on admission was unremarkable. The patient was conscious, oriented and showed no signs of trauma. Laboratory examination did not reveal any significant anomalies. The electrocardiogram showed inappropriate ventricular tips (Fig. 1A). The chest x-ray (Fig. 1B) showed a winding of the probes around the housing, which had undergone numerous rotations around its central axis, confirming the diagnosis of Twiddler syndrome. The patient underwent a reoperation which consisted in repositioning the probes and the housing in the retro-pectoral compartment. Twiddler syndrome is an exceptional and easily surprising cause of pacemaker dysfunction. Its frequency is around 5%. It was first described in 1968 by Bayliss et al. It easily affects patients with a psychiatric history, who "play" with their subcutaneous envelope (twiddle meaning "to fiddle" in English), by turning it on itself, then causing a displacement of the probes which wrap around the pacemaker and default capture dysfunction. The syndrome may present with unusual symptoms, in addition to those which led to the primary implantation of the pacemaker (syncope, dyspnea, etc.), such as hiccups when stimulated by the phrenic nerve, or pectoral muscles or even abdominals responsible for abdominal pain or abnormal movements of the limbs by stimulation of the brachial plexus.

Attachment: Image.docx

#23469 : What hides lumbar pain

Authors:

Marta Rodríguez Pardo (1), Ana Ramos Rodríguez (2), José Ramón Oliva Ramos (3), Susana Sánchez Ramón (3), María González Araujo (2), Marta Benito Moscoso (4), Judit Fraile Simón (2), Elisa Alba Ingelmo Astorga (2), Diana María Narganes Pineda (2), Laura Solis Sierra (5), Juan Carlos Sánchez Rodríguez (3), Jesus Angel Moche Loeri (2), Daniel Serrano herrero (3), Victor Muñoz Martin (4), Patricia Moro Longoria (2), Laura Cotillas García (2), María del mar Villacorta Martin (3), Nuria Lopez Herrero (3), Begoña Antón González (2), Jorge Gutierrez Miguel (2), Rocio del mar Diaz Ibañez (6), Sara Ortiz Seco (2), pedro Castaño Camblor (2), Cristina Sal Redondo (2), Cristina Gonzalo Gutierrez (7), Beatriz Torres Blanco (2)

1. , Hospital Universitario Rio Hortega, valladolid, Spain
2. , Hospital Universitario Rio Hortega, valladolid, Spain
3. Emergency care, Hospital Universitario Rio Hortega, valladolid, Spain
4. , Hospital Universitario Rio Hortega, Valladolid, Spain
5. , Hospital campo arañuelo, navalmoral de la mata, Spain
6. , Hospital Torrecárdenas Almería, almería, Spain
7. , Hospital Universitario Mostoles, madrid, Spain

Keywords: anticoagulation, lumbar pain, psoas hematoma

Abstract :

Why is this case interesting? Hematomas are one of the different complications associated with anticoagulant therapy. Their incidence is increasing due to the widespread use of these drugs in ischemic and embolic diseases.

kkk a unique/rare condition or a typical kkk? Spontaneous haematoma of the rectus abdominis muscle is an uncommon cause of abdominal pain but It occurs mostly in anticoagulated patients.

Does it provide good learning points? We consider it interesting to analyse the presentation, diagnosis and treatment results in this type of patient.

Does it include informative results? (radiology, blood etc.)

Blood tests and radiological tests were decisive in reaching an accurate diagnosis

Clinical history: A 88-year-old woman with no drug allergies and a history of AFib, anticoagulated with acenocoumarol, who came to the emergency room for spontaneous pain from the left lumbar region to the thigh. She refers to having had a trauma 5 days before and that was taking amoxicillin until 2 days ago.

Misleading elements: On examination, good general condition, conscious, oriented, collaborative, eupneic at rest and afebrile. Cardiopulmonary examination without abnormalities. Hematoma in left flank and homolateral breast. Functional impotence in the left leg with impossibility to perform flexion/extension. Pain to the deep palpation of the left iliac fossa. No laboratory data of interest except for coagulation: INR 7.85. ECG: Block left branch.

Helpful details: CAT: Intramuscular hematoma evolving in the iliac muscle with extension to the root of the left thigh and signs of active bleeding. Patient was admitted due to muscular hematoma in relation to overdose of acenocoumarol (possibly related to the intake of amoxicillin) and with fall as possible origin. The need for surgical intervention was dismissed by surgery. During admission, acenocoumarol was removed and the patient remained asymptomatic and without complications, being discharged. The patient was explained about the risks and benefits of the reintroduction of anticoagulation.

Differential and actual diagnosis: There are several possible differential diagnoses

acute appendicitis, nephritic colic, complicated diverticulitis, retroperitoneal tumor. In our case we are faced with a hematoma of the psoas muscle.

Clinical relevance:

The presence of psoas hematoma is exceptional in the absence of anticoagulant medication or coagulation disorders

Bruising is one of several haemorrhagic complications deriving from anticoagulant therapy. Its incidence is raising due to the increased use of these drugs. It is necessary to establish early diagnosis to avoid unnecessary complications and surgeries.

#23470 : Evaluation of the management of mild head injuries in HNFC emergencies: Between practice and recommendations**Authors:**

Hakim Slimani (1, 2), Oriane Guillot (3), Charles Eric Lavoignet (3)

1. Urgences- SMUR , Hôpital Nord France Comté , Belfort, France
2. Urgences, Hôpitaux Universitaires de Strasbourg. Hôpital Hautepierre , Strasbourg, France
3. Urgences, Hôpital Nord Franche Comté, Belfort, France

Keywords: mild head ;

Abstract :

Introduction: Our study was carried out with the aim of evaluating the cost in charge of mild head trauma of adults in the emergency department of Trévenans, with regard to the recommendations of the SFMU 2012.

Material and method: We carried out an observational and retrospective study over 3 months. All adult patients who consulted for a TCL in the emergency department of the Nord Franche Comté hospital (HNCF) between January 15 and April 15, 2018 were included.

Results: 406 files on been analyzed. Among the 283 patients who presented at least one identified risk factor, the majority of them (95.9%) benefited from celebrated imagery in line with the recommendations and this in 58% within the time allowed. Concerning the 29 patients on AVK, the dosage of the INR was carried out in 65.5% of the cases. 181 patients are presented as critics of hospitalization, of which 54.1% are among the most important. Among the patients who returned to their homes, 96% received a letter of liaison for the reassessment by the attending physician and / or information on the monitoring instructions. Only 31.1% of patients obtained an optimal load price according to REF 2012.

Discussion: Our analysis indeed points to the difficulty in carrying out, on the one hand, brain imaging within the required time and on the other hand, and surveillance in hospital. However, this observation is made in the current context of overloading emergency services, due to the increase in consultations, sometimes limited access to the scanner and a "bottleneck" of hospital beds. In view of the results of the various studies concerning the implementation of post-traumatic HIC in the case of mild head trauma and with regard to other European practices, it was necessary to reassess the recommendations of the SFMU which seem maximalist and ill-suited to the current circumstances in terms of care offer.

Conclusion: the cost in charge of mild head injuries for adults in the emergency departement of the HNFC remains perfectible, with an inhomogeneous approach within the Medical team. It therefore seems interesting to us to grind a clinical path in the form of a diffuse decisional algorithm and validate by all of the antagonists consulted in the price in charge of the mild head trauma in order to compensate for the different practice gaps.

Authors:

Jakob Sobocki (1), Kim Hvid Benn Madsen (2), Aske Tøgern Wissum (2)

1. , , Holbaek, Denmark

2. , Holbæk ED, Holbæk Hospital, Denmark, Holbaek, Denmark

Keywords: Emergency department, dyspnea, heart failure, probnp, blood sample, admission

Abstract :

Background: ProBNP is a peptide secreted by cardiomyocytes in conditions of increased blood volume, indicative of heart failure. Previous studies have suggested that a low ProBNP can be used to rule out acute heart failure (HF) in the emergency department (ED). However, the use of ProBNP is still debated.

We performed an audit in order to determinate if the measurement of ProBNP had an impact on the decision process in the ED for patients presenting with dyspnea.

Methods: Between Nov 11, 2019 – Dec 12, 2019, 85 patients in Holbæk ED had ProBNP measured. Out of 85 consecutive patients, 17 were selected by auditing every 5th patient record. A consultant and a resident reviewed the records independently, no disagreements were found between these. Regional cut-off values for ProBNP are in Region Sjælland set as following;

Factors considered in the audit was whether the analysis of ProBNP was indicated, whether the value impacted the decision to which department the patient should be admitted to, and lastly whether the analysis of ProBNP prolonged the stay in the ED.

Results: 13 out of 17 patients had ProBNP taken on a well-indicated basis, i.e. dyspnea on the basis of suspected HF. 9 out of the 17 patients had an increased ProBNP, and for 6 of these, the test result had significant consequences in terms of the disposition decision, which in our setting was admission to the cardiology department.

For 71% of the audited records (12 of 17) the ProBNP test had a significant impact on the choice of receiving ward—cardiology or a general internal medicine ward.

Only 6 patients—out of all 85 patients—had ProBNP values between 300 and 1000 units, i.e. in the indeterminate range. Thus the vast majority of the blood samples were encompassed by the regional cut-off values.

For all patients did ProBNP values correctly predict and support the decision of receiving department.

For none of the patients did the ProBNP analysis result in a prolonged stay in the ED.

Conclusion: ProBNP seems to be a valuable tool with regards to fast initial assessment of patient

admittance strategy.

Trial Registration / Funding Information (only) :

None.

#23474 : A severe case of Clarkson Syndrome complicated with cardiac arrest

Authors:

Oana Maria DAN (1)

1. Emergency Department, Centre Hospitalier Sud Francilien , Paris, France

Keywords: Clarkson syndrome, capillary leak, hypovolemic shock, ischemia, edema, cardiac arrest

Abstract :

Systemic capillary leak syndrome, also known as Clarkson Syndrome, is a rare condition with a severe presentation and a potential fatal outcome. The disease is characterized by transient episodes of increased vascular permeability and leakage of plasma proteins to the interstitial space. The most important characteristics are: severe edema, tissue hypo-perfusion, hypoalbuminemia and hemoconcentration. We present a case of a 49-year-old woman who was admitted to the Emergency Department with anasarca and hypovolemic shock. She had been diagnosed with Clarkson Syndrome two years before but had no medical follow-up. The anamnesis found a history of diarrhea in the days preceding the first crisis as well as in the days preceding the current episode. The patient received massive fluid perfusion and intravenous noradrenalin but she had a cardiac arrest. She was resuscitated and admitted to the Intensive Care Unit. She further developed severe complications of the hypovolemic state: hepatic, intestinal and cerebral ischemia. She died of multi-organ failure after 15 days. The pathophysiology of the disease is poorly understood and the acute treatments are empirical. We describe a case of Clarkson syndrome as a rare cause of hypovolemic chock presenting to the Emergency Department with particular focus on the need of rapid solute resuscitation and adrenaline.

#23476 : Pulmonary hemorrhagic alveolitis due to kerosene aspiration

Authors:

Oana Maria DAN (1)

1. Emergency Department, Centre Hospitalier Sud Francilien , Paris, France

Keywords: Hemorrhagic alveolitis, kerosene, poisoning

Abstract :

Kerosene aspiration may be responsible for substantial morbidity and mortality. Aspiration induces an inflammatory response in the lung tissue and the most serious effects include pulmonary infiltration, hemorrhagic exudative alveolitis and pulmonary edema. We report a case of a 25-year-old man who accidentally ingested and aspirated kerosene. The patient presented to the Emergency Department with chest pain of pleuritic nature, important breathlessness and hemoptysis. He had no gastrointestinal symptoms. The lung CT Scan showed perihilar and basal bilateral infiltrates and intra-alveolar bleeding. He was admitted to the ICU and was treated with oxygen supplementation and intravenous antibiotics for a period of 15 days. He responded satisfactorily to the treatment and the bronchoscopy performed three weeks later was normal. He was discharged without any residual sequella. Kerosene poisoning particularly by aspiration can induce severe pulmonary damage and patients presenting to the ED must be carefully evaluated and monitored in order to prevent lung sequella.

#23478 : Efficacy of Lopinavir / ritonavir in a patient with COVID 19

Authors:

Fatima Fernandez Salgado (1), Vanesa Isaac (2), Miriam Uzuriaga Martin (3), Juan Jose Fernandez Dominguez (4), Julian Torrejon Pulido (5), Gloria Garcia Herrero (3), Jordi Arnau Marsá Domingo (3), Miriam Gonzalez Barea (5)

1. Emergency Service of the University Hospital of Mostoles, SERMAS, Madrid, Spain
2. emergency care, SUMMA 112, Madrid, Spain
3. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
4. SUMMA 112, Sanidad Madrid, Madrid, Spain
5. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain

Keywords: #Efficacy #Lopinavir/ritonavir #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID 19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID- 19 pneumonia and hospitalization of the patient was decided.

Given these findings, outpatient treatment is started with hydroxychloroquine 200 mg 1 tablet every 12 hours, lopinavir / ritonavir 100/25 mg 1 tablet every 12 hours and 1 azithromycin 500 mg tablet for 3 days is started.

The patient doesn't evolve favorably, so he is taken to the hospital center where he is admitted and diagnosed with COVID- 19. Bilateral pneumonia was observed on radiography.

During admission, the patient is treated with immunomodulatory treatment with tocilizumab 600 mg twice and methylprednisone 250 mg bolus for 3 days. The patient made partial improvement, so it was decided to start treatment with baricitinib 4 mg for 7 days. Baricitinib is stopped on the 6th day of treatment as the patient makes a significant increase in transaminases. During this period, a significant increase in D-dimer was made, without finding an image of pulmonary thromboembolism on the CT angiography, so treatment with heparin at anticoagulant doses was decided.

Finally, the patient evolves favorably and is referred to his home where he had an exceptionally good evolution.

Lopinavir/ritonavir (LPV/r) is an HIV protease inhibitor indicated in combination with other antiretroviral agents for the treatment of HIV in adults and in the pediatric population from 14 days of age.

There are several studies that have studied the efficacy of Lopinavir/ritonavir for COVID- 19 infection. Zhanget et al concluded the effectiveness of lopinavir/ritonavir as it is a protease inhibitor designed to block viral replication.

However, subsequent studies, such as B. Cao et al, conducted a trial that included a total of 199 patients, 99 treated with LPV/r and 101 with SoC. The main variable of this study was "time to clinical improvement", which was 16 days in both arms. Analyzing both groups after 28 days, the researchers concluded that the drug didn't do a better job of treating patients than the standard of care. There were no statistically significant differences showing that the drug improved mortality, reduced the detectable amount of the virus in patients, or shortened hospital stays.

It can be concluded that there is no scientific evidence that significantly supports the use of lopinavir/ritonavir in patients with covid infection 19. More studies are needed on its efficacy in this type of patient.

#23479 : Efficacy of corticosteroids in a patient with COVID 19

Authors:

Soledad Martin Fresneda (1)

1. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain

Keywords: #Efficacy #Corticosteroids #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID 19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID- 19 pneumonia and hospitalization of the patient was decided.

Given these findings, outpatient treatment is started with hydroxychloroquine 200 mg 1 tablet every 12 hours, lopinavir / ritonavir 100/25 mg 1 tablet every 12 hours and 1 azithromycin 500 mg tablet for 3 days is started.

The patient doesn't evolve favorably, so he is taken to the hospital center where he is admitted and diagnosed with COVID- 19. Bilateral pneumonia was observed on radiography.

During admission, the patient is treated with immunomodulatory treatment with tocilizumab 600 mg twice and methylprednisone 250 mg bolus for 3 days. The patient made partial improvement, so it was decided to start treatment with baricitinib 4 mg for 7 days. Baricitinib is stopped on the 6th day of treatment as the patient makes a significant increase in transaminases.

Finally, the patient evolves favorably and is referred to his home where he had an exceptionally good evolution.

Corticosteroids can be useful in the treatment of acute respiratory distress syndrome (ARDS) secondary to COVID- 19 infection. However, there is no evidence for the systematic recommendation of corticosteroids in patients with COVID-19 infection .

The Spanish Ministry of Health reports that "Systemic corticosteroids are not generally recommended. Previous studies in patients with SARS, MERS and even influenza have shown that they do not have beneficial effects in even the clearance of the virus has been delayed. It can be assessed in cases of ARDS, septic shock, encephalitis, hemophagocytic syndrome and when there is frank bronchospasm with wheezing. "

However, in subsequent randomized clinical trials it has been observed that its administration in critically ill patients with ARDS related to COVID-19 is controversial and that the "Society of Critical Care Medicine" (SCCM) offers a conditional and weak recommendation in favor of glucocorticoids in COVID-19 patients who have severe ARDS.

Administration of methylprednisolone was found in a retrospective cohort study to reduce the risk of death in patients with COVID-19 compared to patients who did not receive methylprednisolone (hazard ratio [HR] 0.38; 95% CI 0.2- 0.71) (14). However, these data are fundamentally flawed and the new data collected prospectively should shed light on this controversial issue.

More studies are needed on the efficacy of corticosteroids in patients with COVID-19 infection.

#23481 : Efficacy of hydroxychloroquine in a patient with COVID 19

Authors:

Vanesa Isaac (1), Fatima Fernandez Salgado (2), Miriam Uzuriaga Martin (3), Juan Jose Fernandez Dominguez (4), Gloria Garcia Herrero (3), Julian Torrejon Pulido (5), Laura Fulgencia Garcia (1), Noemi Soto Tostado (1)

1. emergency care, SUMMA 112, Madrid, Spain
2. Emergency Service of the University Hospital of Mostoles, SERMAS, Madrid, Spain
3. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
4. SUMMA 112, Sanidad Madrid, Madrid, Spain
5. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain

Keywords: #Efficacy #Hydroxychloroquine #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID 19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID- 19 pneumonia and hospitalization of the patient was decided.

Given these findings, outpatient treatment is started with hydroxychloroquine 200 mg 1 tablet every 12 hours, lopinavir / ritonavir 100/25 mg 1 tablet every 12 hours and 1 azithromycin 500 mg tablet for 3 days is started.

The patient doesn't evolve favorably, so he is taken to the hospital center where he is admitted and diagnosed with COVID- 19. Bilateral pneumonia was observed on radiography.

During admission, the patient is treated with immunomodulatory treatment with tocilizumab 600 mg twice and methylprednisone 250mg bolus for 3 days. The patient made partial improvement, so it was decided to start treatment with baricitinib 4 mg for 7 days. Baricitinib is stopped on the 6th day of treatment as the patient makes a significant increase in transaminases.

Finally, the patient evolves favorably and is referred to his home where he had an exceptionally good evolution.

Hydroxychloroquine is an antimalarial drug whose indication for treatment according to the technical data sheet is:

- Rheumatoid arthritis
- Treatment of acute attacks of uncomplicated malaria and to prevent malaria
- Discoid and systemic lupus erythematosus

The effect of chloroquine has been studied in vitro in various Chinese studies, using Vero E6 cells infected by SARS-CoV-2 at a multiplicity of infection (MOI) of 0.05. The authors described the effect of chloroquine on blocking virus infection by increasing endosomal pH and interfering with glycosylation of the SARS-CoV cell receptor. The authors also speculated that the known immunomodulatory effect of the drug may enhance the antiviral effect in vivo.

However, in some subsequent studies (Wei Tang et al) it has been found that hydroxychloroquine does not help eliminate Covid-19 or alleviate patients' symptoms compared to standard healthcare. Not only that, but it also has more side effects, according to a trial of 150 randomly selected adults hospitalized in China.

The 28-day mean with which coronavirus patients overcome the disease was similar in the two groups of 75 patients analyzed, one with hydroxychloroquine and the other without it. The Kaplan-Meier estimate for the "negative conversion rate" (negative in Covid-19) was 85.4 percent in the hydroxychloroquine plus standard of care (SOC) group, compared to 81.3 percent in the SOC-only group (P=0.34).

More studies are needed on the effect of chloroquine in patients with covid 19+.

#23482 : Efficacy of Anakinra in a patient with COVID 19

Authors:

Juan Jose Fernandez Dominguez (1), Fatima Fernandez Salgado (2), Vanesa Isaac (3), Julian Torrejon Pulido (4), Gloria Garcia Herrero (5), Miriam Uzuriaga Martin (5), Maria Redondo Lozano (4), Sara Hernandez Martinez (4)

1. SUMMA 112, Sanidad Madrid, Madrid, Spain
2. Emergency Service of the University Hospital of Mostoles, SERMAS, Madrid, Spain
3. emergency care, SUMMA 112, Madrid, Spain
4. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
5. SUMMA 112, Prehospital Emergency Care, Madrid, Spain

Keywords: #Efficacy #Anakinra #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID 19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID- 19 pneumonia and hospitalization of the patient was decided.

Given these findings, outpatient treatment is started with hydroxychloroquine 200 mg 1 tablet every 12 hours, lopinavir / ritonavir 100/25 mg 1 tablet every 12 hours and 1 azithromycin 500 mg tablet for 3 days is started.

The patient doesn't evolve favorably, so he is taken to the hospital center where he is admitted and diagnosed with COVID- 19. Bilateral pneumonia was observed on radiography.

During admission, the patient is treated with immunomodulatory treatment with tocilizumab 600 mg twice and methylprednisone 250 mg bolus for 3 days. The patient made partial improvement, so it was decided to start treatment with baricitinib 4 mg for 7 days. Baricitinib is stopped on the 6th day of treatment as the patient makes a significant increase in transaminases.

Finally, the patient evolves favorably and is referred to his home where he had an exceptionally good evolution.

The current treatment of COVID-19 is supportive, and respiratory failure due to acute respiratory distress syndrome (ARDS) is the leading cause of mortality.

In the event that the patient's evolution had not been favorable. The third immunomodulatory step that was considered was the anakinra

Anakinra (IL-1Ra) is a recombinant IL-1 receptor antagonist with a very short half-life of 4 to 6 hours, requiring a daily subcutaneous injection of a dose of 100 mg. It also reduces the levels of other proinflammatory cytokines (including IL-6 and IL-18) and of acute phase reactants such as PCR and ferritin.

It has been used to control autoinflammatory syndromes and in patients with Macrophage Activation Syndrome (SAM). Data from a phase 3 randomized controlled trial of IL-1 blockade with Anakinra in sepsis with SAM characteristics showed a significant improvement in the 28-day survival rate (65.4% Anakinra vs. 35.3% placebo), with HR of fatal outcome of 0.28 (0.11–0.71, p = 0.0071), with no increased adverse events, thus Anakinra could have potential use to reduce systemic inflammation and lung damage caused by SARS-CoV2 without this being demonstrated in trials clinics to date.

Still, more studies are needed on the efficacy of anakinra in patients with COVID- 19.

#23483 : Importance of anticoagulation in a patient with COVID 19**Authors:**

Gloria Garcia Herrero (1), Juan Jose Fernandez Dominguez (2), Fatima Fernandez Salgado (3), Vanesa Isaac (4), Julian Torrejon Pulido (5), Miriam Uzuriaga Martin (1), Natalia Valencia Gonzalez (5), Santiago Blanco Rey (6)

1. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
2. SUMMA 112, Sanidad Madrid, Madrid, Spain
3. Emergency Service of the University Hospital of Mostoles, SERMAS, Madrid, Spain
4. emergency care, SUMMA 112, Madrid, Spain
5. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
6. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain

Keywords: #Anticoagulation #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID- 19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID- 19 pneumonia and hospitalization of the patient was decided.

Given these findings, outpatient treatment is started with hydroxychloroquine 200 mg 1 tablet every 12 hours, lopinavir / ritonavir 100/25 mg 1 tablet every 12 hours and 1 azithromycin 500 mg tablet for 3 days is started.

The patient doesn't evolve favorably, so he is taken to the hospital center where he is admitted and diagnosed with COVID- 19 infection. Bilateral pneumonia was observed on radiography.

During admission, the patient is treated with immunomodulatory treatment with tocilizumab 600 mg twice and methylprednisone 250 mg bolus for 3 days. The patient made partial improvement, so it was decided to start treatment with baricitinib 4 mg for 7 days. Baricitinib is stopped on the 6th day of treatment as the patient makes a significant increase in transaminases. During this period, a significant increase in D-dimer was made, without finding an image of pulmonary thromboembolism on the CT angiography, so treatment with Low molecular weight heparin (LMWH) at anticoagulant doses was decided.

The risk of venous thromboembolism (VTE) in hospitalized patients with COVID-19 is an emerging problem. Recent case series (Chui S et al.) Report 25% and 27% of cases of venous thromboembolism (VTE) in patients with severe pneumonia from COVID-19.

There is a different bibliography that confirms these facts. BMJ Best Practice stresses the importance of identifying high-risk COVID-19 patients in order to establish VTE prophylaxis measures, in turn the "American Society of Hematology" recommends pharmacological thromboprophylaxis with LMWH or fondaparinux in hospitalized patients with COVID-19, unless the patient is considered to be at increased risk of bleeding. Likewise, in a Canadian provisional guide on the management of the patient with moderate or severe COVID-19, it is recommended to use pharmacological prophylaxis (preferably with LMWH) in adolescents and adults without contraindications, to reduce the incidence of VTE.

The Spanish national health system indicates that in patients without anticoagulant treatment prior to infection but who are considered a patient at thrombotic risk due to COVID-19 infection, LMWH would be prescribed at prophylactic doses during admission and continued at discharge for a time ranging from 7-15 days and one month (to take into account the individual situation of each patient).

However, more studies are needed on the need for anticoagulation in patients with COVID-19.

#23484 : Prehospital care in a patient with COVID 19

Authors:

Julian Torrejon Pulido (1), Miriam Uzuriaga Martin (2), Fatima Fernandez Salgado (3), Vanesa Isaac (4), Juan Jose Fernandez Dominguez (5), Gloria Garcia Herrero (2), Santiago Blanco Rey (6), Miriam Gonzalez Barea (1)

1. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
2. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
3. Emergency Service of the University Hospital of Mostoles, SERMAS, Madrid, Spain
4. emergency care, SUMMA 112, Madrid, Spain
5. SUMMA 112, Sanidad Madrid, Madrid, Spain
6. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain

Keywords: #Prehospital care #COVID 19

Abstract :

We are notified by a 64-year-old man that he had fever of 38.2°C and a dry cough.

On arrival, we observed on physical examination tachypnea (respiratory rate of 24 rpm), it was observed fever of 38.2°C, crackles in the right lung base, and 95% oxygen saturation. He denies contacts with patients with COVID-19 infection and affirms that he has taken precautionary measures according to what is established (mask, gloves and only leaving the home for what is strictly necessary). As the only personal history was hypertension treated with enalapril / hydrochlorothiazide 20 / 1.5mg and a carotid stenosis of 70% in treatment with adiro 100mg.

Due to these findings, it was decided to refer to the hospital to target COVID-19 pneumonia and hospitalization of the patient was decided.

Health care at home for a COVID 19 patient has been essential for the correct management of Spanish health in Madrid. For this, the health workers have had to have a series of protection measures for their components, with the risk of minimizing the risk of contagion to the health personnel.

The Spanish Ministry of Health has prepared the "Technical document: Hygienic measures for the prevention of COVID-19 infections", which includes the hygienic measures for the prevention of COVID-19 infections in homes, common areas, vehicles and places of public attendance, as well as for waste management, referring to the "List of virucides authorized in Spain for environmental use, the food industry and human hygiene".

Personnel involved in transport must be informed in advance and must use the equipment to prevent infection by microorganisms transmitted by drops and by contact. The personal protective equipment used in the SUMMA 112 Madrid has been a diver or a waterproof gown, protective glasses, gloves and a FFP2 mask.

The patient should wear a surgical mask to reduce the possibility of contagion with the healthcare team.

The route of transmission is considered similar to that described for other coronaviruses through the secretions of infected people, mainly by direct contact with respiratory drops of more than 5 microns (capable of transmitting distances of up to 2 meters) and contaminated hands or fomites.

The permanence of viable SARS-CoV-2 on copper, cardboard, steel, stainless and plastic surfaces has been 4, 24, 48 and 72 hours, respectively, when maintained at 21-23°C and with 40% relative humidity.

The most widely used surface cleaners in SUMMA 112 is dilution of bleach or cleaning viricidal surfaces such as Bactoclean[®], Sure Cleaner[®] or Disinfectant Spray[®].

It is important to take precautions in health care and disinfection of medical equipment, given the high contagiousness of the virus, and more so

considering that the number of health personnel in Spain on April 23 is 34,355 people.

#23485 : COVID:19 - Managing Cardiac Arrest Outside Resus**Authors:**

Craig Warren (1), Louise Clark (2), Fiona Preston (2), Nicola Littlewood (2), Claire McGroarty (2), Alan Whitelaw (2)

1. , , Glasgow, United Kingdom

2. EM, QEUH, Glasgow, United Kingdom

Keywords: COVID-19, Coronavirus, SARS-CoV-2, Cardiac Arrest, CPR, Teaching, Simulation, Emergency, Response

Abstract :**COVID:19 - MANAGING CARDIAC ARREST OUTSIDE RESUS****BACKGROUND**

The SARS-CoV-2 pandemic called for a change to many aspects of clinical practice in challenging and rapidly evolving circumstances. Changes to the resuscitation guidance nationally meant a huge shift in the care of patients in cardiac arrest, namely the need to sufficiently protect health care professionals. We identified the need for a clear and succinct protocol to prioritise the safety of staff and optimise patient care, which is easily understood by staff in a short timeframe. The Queen Elizabeth University Hospital (QEUH) is one of the largest and busiest hospitals in UK. The Emergency Department (ED) sees approximately 110,000 new adult patients per year with 250 permanent staff are employed, all of which makes for novel approaches to teaching.

METHODS

A protocol was created along with a simulation-based, reproducible teaching session. Surveys were collected before and after the training to assess confidence and comprehension. From the end March 2020 teaching sessions were carried out within the Emergency Department of a large Teaching Hospital. A departmental protocol was devised in accordance with the Resuscitation Council UK Guidance on Adult Advanced Life Support in COVID-19 for the management of all cardiac arrests in the department. This was distributed to all nursing and medical staff via email and protocols were attached to resuscitation trolleys in all clinical areas as visual aids. A mnemonic was devised to aid learning. Small group simulation sessions were carried out to immerse staff in the protocol. All nursing and medical staff were included in teaching sessions. Pre- and post-training surveys were collected, assessing staff confidence and understanding of the new protocol. A teaching guide was created to ensure teaching was reproducible, allowing all Emergency Department Clinical Fellows to run these training sessions across multiple shift patterns. This ensured maximum uptake, education and knowledge of staff. Additionally, a short simulation training video was created to be used as an extra tool for staff education and consolidation of learning from training sessions.

RESULTS

122 staff members were taught across fields. This included 57 nursing and senior nursing staff, 45 junior doctors and 12 consultants. Comprehension of the protocol increased from 83.47% before training to 97.36% after training. The proportion of participants who felt confident in using defibrillator increased from 66.29% to 89.26% after the teaching sessions. Confidence in managing a cardiac arrest in this situation increased from 2.14/5 to 4.16/5 across all participants.

DISCUSSION AND CONCLUSION

Writing a clear and succinct protocol and pairing this with reproducible, small-group teaching sessions significantly increased staff confidence in dealing with this stressful event. During this pandemic, having clear and safe protocol which prioritise staff health and wellbeing, as well as optimising patient care, are essential. Staff found the simulation particularly helpful, finding it aided their ease in retaining a significant amount of information in the short time required. We believe this protocol and teaching method would be applicable to any emergency department in the COVID-19 response.

#23486 : An observational study to identify epidemiological patterns in patients admitted via the emergency department to a west london district general hospital with confirmed SARS-CoV-2 infection

Authors:

Natalie Ring (1), Eleanor Heald (2), David Shackleton (1)

1. West Middlesex University Hospital, None, London, United Kingdom
2. West Middlesex University Hospital, None, LONDON, United Kingdom

Keywords: epidemiology, clustering, SARS-CoV-2, Covid-19, coronavirus, demographics, socio-economic

Abstract :

Background:

SARS-CoV-2 infection presents a significant threat to global health. Little is known about the novel virus, therefore epidemiological information and common trends are important to identify with an aim to reduce transmission and improve management of patients with Covid-19. In this observational study we hypothesised that we may be able to identify clusters of patients with confirmed coronavirus presenting to a London District General Hospital to allow targeted public health measures.

Methods:

This is a retrospective, single centre, observational case series study. All patients requiring admission from 11th March 2020 to 30th April 2020 were screened in the emergency department of West Middlesex Hospital, a district general hospital which sees approximately 160,000 patients per year. All patients with a confirmed diagnosis of Covid-19 either by swab or radiological diagnosis were included. Paediatric patients were excluded (<16 years). Demographic data was collected for each patient including age, sex, accommodation type, postcode as well as co-morbidities, smoking status, radiological, biochemical findings, length of stay and patient outcome. Our primary outcome was to identify potential geographical clusters of patients which may represent widespread local transmission. Secondary outcomes include mortality of patients included in the data and any factors such as ethnicity, socio-economics or co-morbidities which may correlate to Covid-19 severity. An online cloud based mapping analysis was used to map case density against secondary outcome variables.

Results:

Our data collection and analysis is ongoing. By the end of data collection we aim to have 500 patients included within the case series. Using mapping software and postal code location we were able to generate a daily animated time series. Initial analysis suggested there was uniform spread of cases within the local catchment area. However, analysis of secondary outcomes shows a correlation between ethnicity, population density and socio-economic status.

Discussion and Conclusions:

We hypothesised we would see geographical clusters of patients requiring admission to hospital which could then be targeted with public health measures to reduce transmission of SARS-CoV-2 in the community. As discussed within results there was uniform spread within the catchment areas suggesting equal uptake of social distancing and household isolation. On further analysis of secondary outcomes however, overlay maps showed potential socio-economic correlation. Lessons from the first wave of SARS-CoV-2 suggest there may be a role for targeted population specific public health measures to minimise spread within communities in a potential second peak of infection.

Limitations:

This study focused solely on patients admitted to hospitals with Covid-19. Asymptomatic or mild Covid-19 infections not requiring admission were not included. Patients who self-discharged or where the decision was made that despite severe Covid-19 to remain in the community were also not included. Data collection started 11th March 2020 therefore early index cases may have been missed. Further analysis and research would be required to establish whether population density, socio-economic status and/or ethnicity increases SARS-CoV-2 prevalence or predict increased severity.

#23488 : How much do really know about using computerized decision support software to improve the quality of telephone triage? A systematic review of the literature.

Authors:

Farah Islam (1), Pieter Heeren (2), Marc Sabbe (3), Koen Milisen (2)

1. Department of Patient Related and Public Health Research, KU Leuven, Leuven, Belgium

2. Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; University Hospitals Leuven, Department of Geriatric Medicine, KU Leuven, Leuven, Belgium

3. University Hospitals Leuven, Department of Emergency Medicine, Belgium; KU Leuven, Department of Public Health and Primary Care, KU Leuven, Leuven, Belgium

Keywords: computerized decision support software, telephone triage, systematic review

Abstract :

Intro: Computerized decision support software (CDSS)– integrated telephone triage has become a prominent instrument for managing emergency care needs in the population. Though these services have generally been shown to be effective, large gaps in the literature exist with regards to the overall quality of these systems. In the current systematic review, our aim was to therefore (1) document the effectiveness of different CDSS that are used in the scientific literature (2) describe the consistency of telephone triage decisions that are made using these CDSS and (3) better understand which other factors might influence the consistency of telephone triage decisions.

Methods: A systematic review was conducted in November 2019 using PubMed, Web of Science, Cochrane Central Register of Controlled Trials, and Nursing and Allied Health Literature database. Quantitative research articles including a CDSS component and addressing consistency of telephone triage decisions were included in the review. Studies exploring the use of other types of digital support systems for triage (i.e. telemedicine, wearables, etc...) were excluded. Two authors independently screened texts for inclusion and assessed study quality using the Methodological Index for Non-Randomized Studies. Data extraction was performed by one author and reviewed for accuracy by a second author.

Results: From a total of 1551 records that were identified, 39 full-texts were assessed for eligibility and 7 studies were included in the review. The risk of bias for studies was found to be low (n=3) to moderate (n=4). All of the studies identified as part of our search were observational and were based on nurse-led telephone triage. One of the seven included articles investigated the effectiveness of CDSS. Although all of the included studies reported consistency of telephone triage decisions, only one clearly investigated the consistency of telephone triage decisions based on CDSS use. All of the included studies reported factors related to the operator– (n=6), the CDSS (n=2), and/or patient–based (n=1) characteristics to have an influence on the consistency of telephone triage decisions.

Conclusion: Our systematic review demonstrates that, to date, some efforts have been made to scientifically investigate the use of CDSS–integrated telephone triage systems. In general, however, the evidence–base surrounding this field of literature is very limited and largely inconclusive. Fruitful research must be further prompted to better understand the ability of

CDSS to improve the quality of telephone triage services for persons seeking emergency care.

Trial Registration / Funding Information (only) :

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 81265

#23489 : COVID-19: Redesigning a Department in Response to a Pandemic**Authors:**

Craig Warren (1), Claire McGroarty (2), Alan Whitelaw (2)

1. , , Glasgow, United Kingdom
2. EM, QEUH, Glasgow, United Kingdom

Keywords: COVID-19, Coronavirus, SARS-CoV-2, Flow, Emergency, Response, Management

Other

Patient images are not involved

Abstract :**COVID-19: Redesigning a Department in Response to a Pandemic****Breif Clinical Details (80 Words):**

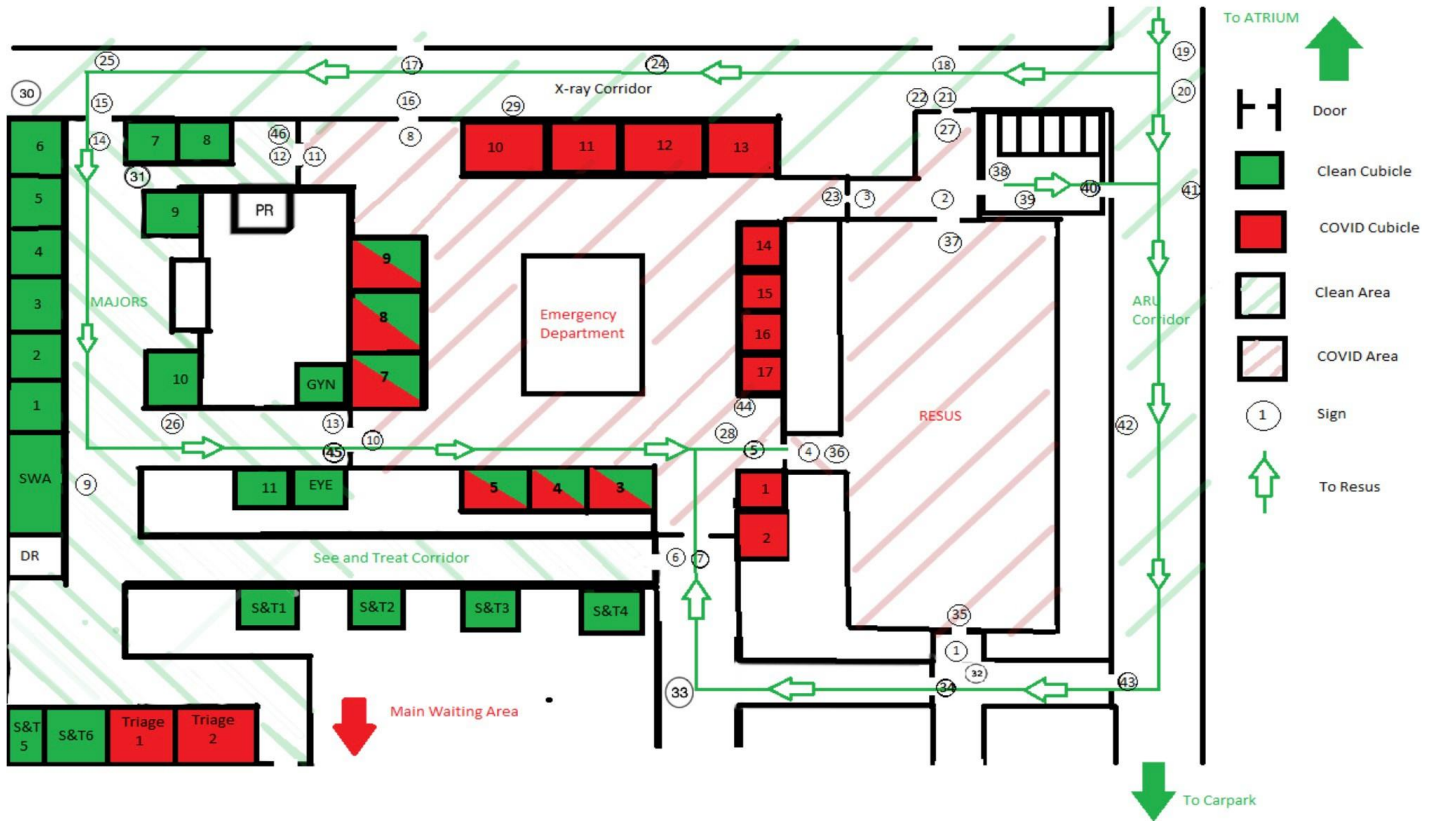
During the recent COVID-19 pandemic, flow was identified as an issue. The aims were to minimise contact of COVID and non-COVID patients as well as reducing entry points of staff so that adequate PPE could be checked. The map was disseminated to assist medical, nursing, specialty and support staff. The maps were accompanied by signs which allowed people unfamiliar with the system to navigate it easily.

Description of the relevant abnormalities (80 Words):

The map shows the designated Green (clean) areas and the Red (COVID) areas. There are specific routes for patients to enter and leave the department. The map incorporates different routes for patients arriving by ambulance and patients coming by foot. There is a clean and a dirty waiting area. Several exits and entrances were closed off to rationalise movement. Routes were outlined for specialties entering resus, ensuring only essential staff enter and that they are wearing the appropriate PPE.

Why is this image clinically or educationally relevant? (80 Words):

This image shows the hidden challenges of COVID-19 and how careful planning can overcome them. Minimising of entrances to Resus reduced risk by ensuring checks to PPE. This pandemic is a time of great change, some of which should be carried forward to inform safer practice in the future.



Attachment: EUSEM Flow submission (1).pdf

#23491 : Recommendations for burns care in mass casualty incidents: WHO Burns Working Group Technical Paper and Recommendations**Authors:**

Amy Hughes (1), Amy Hughes (2), Tom Potokar (3), Stian Almeland (4), Ian Norton (5)

1. , Interburns, Sudbury, United Kingdom
2. Interburns, Interburns, Sudbury, United Kingdom
3. , Interburns, Centre for Global Burn Injury Policy & Research, Swansea University, United Kingdom
4. Consultant Plastic Surgeon, Norwegian National Burn Centre, University of Bergen, Norway
5. Respond Global, previous WHO EMT Lead, Respond Global, Brisbane, Australia

Keywords: recommendations for burn care in mass casualty incidents

Abstract :

Health and logistical needs in emergencies have been well recognised. The last seven years has witnessed an improving professionalization and standardisation of care for disaster affected communities – a change which has been brought about in part by the Emergency Medical Team initiative (2013) of the World Health Organization (WHO EMT). Since its origin in 2013, this initiative has provided a platform for the evolution and development of specialist emergency medical teams, strengthening specific health and logistical needs in emergencies. National capacity strengthening has been a focus, with particular resources targeted to building National EMT specialist teams. The initiative supports and encourages trained and appropriately skilled teams of national and international personnel to deliver a co-ordinated approach to targeted health needs whilst adhering to minimum standards of care. The evolving nature, and changing definition, of humanitarian emergencies has highlighted the need for a widened scope of practice for EMTs. In addition to EMT's influential role in outbreaks, conflict and chronic complex disasters, smaller scale but high impact emergencies have also brought to attention a need for specialist EMTs able to target specific health needs.

Mass casualty incidents resulting in burn injuries present some unique challenges. Accounting for at least 200,000 deaths annually, burn injuries and the resultant morbidity, mortality, and disability-adjusted life-years lost, rank high as a global public health problem. The high prevalence in low and middle-income countries, non-fatal burns are among the leading causes of Disability Adjusted Life Years (DALY) lost. Burn management of those injured requires specialist skills, expert knowledge, and timely availability of specialist resources. Lack of immediate (on-scene) patient care and the consequences of poor early decision-making in patient management can impact significantly on patient outcome and capability of health facilities to deliver good burn care. Recent examples of mass casualty incidents with multiple burn injured patients have demonstrated the extensive demands placed on health care workers and local health facilities and the resultant high morbidity and mortality rates. With burn mass casualty incidents occurring globally, and the wide variance in existing burn care capacity in different parts of the world, the need to strengthen burn care capability is evident.

In accordance with the processes used to create minimum standards of care amongst the emerging EMT specialist cells, a number of global burn experts were invited to participate in a succession of Working Group consensus meetings over a two year period. The aims of this work were to 1) review the literature on mass burn casualty incidents and 2) define and achieve agreement on recommendations for burn care in mass casualty incidents.

The resulting 21 recommendations are meant to provide a framework to guide National and International specialist burn teams and health facilities to ensure delivery of safe, appropriate, and relevant care to burn victims.

#23494 : A service evaluation of potential impact of major trauma triage tool on emergency departments in the clyde region**Authors:**

Lynn Poole (1), Afnan Mshihadani (1), Monica Wallace (2)

1. Medical student, University of Glasgow, Glasgow, United Kingdom
2. Emergency Department, Royal Alexandra Hospital, Glasgow, United Kingdom

Keywords: service evaluation, regionalised trauma, emergency department, orthopaedic trauma, major triage tool

Abstract :Background

Since the inception of the NHS, ambulances transported patients to the nearest ED without specific consideration as to the capability or capacity of that department. However, it has been shown that this leads to great inequality of the level of care that patients receive. In order to reduce inequality, organizations such as the Scottish Trauma Network have sought positive changes to improve the standard of service especially in respect to improvement of the triage of patients to the most suitable ED. A new regionalised trauma system in Scotland has been devised to address this issue. These new trauma systems will result in centralization of specific services at specialised EDs. This study is to evaluate the potential effects of regionalization of orthopaedic trauma care from Inverclyde Royal Hospital ED to the Royal Alexandra Hospital.

Method

A retrospective service evaluation of all adult (>16 years) orthopaedic trauma cases that presented to Inverclyde Royal Hospital (IRH) ED between 1st January 2019 until 30th June 2019 who were admitted to the orthopaedic ward at IRH was conducted. This period was chosen as covered two seasons of the year to give a wide representation of expected orthopaedic trauma and increased the potential to include a larger number of patients for the evaluation. These patients were identified by being admitted to ward "K North" which is the dedicated orthopaedic ward at IRH. Patient clinical details of their admission were collated from NHS Greater Glasgow and Clyde clinical portal and gender, age, date of presentation, diagnosis and short description of any procedure noted. Further to this, orthopaedic trauma injuries were categorised into upper, lower and spinal/neurological trauma with each of these then recorded as either fracture or non-fracture trauma. Additionally all neck of femur fractures and patients transferred from rural locations were recorded.

-

Results

A total of 357 patients were admitted to "K North" ward from IRH ED with orthopaedic trauma. Of those, the largest proportion of admissions was due to lower limb trauma which accounted for 235 (66%). Upper limb trauma had 55 (15%) admissions and spinal/neurological had 67 (19%). The mean age for a patient admitted with an orthopaedic injury was 69 years old and two-thirds of the patients were female 231 (65%). There were 224 (63%) fractures injuries with 78 (34%) of them neck of femur fractures. A total of 202 (57%) procedures were carried out on patients who were admitted to IRH.

Discussion

The evaluation shows the potential for an additional 714 patients requiring treatment at RAH which will impact the ED as well as orthopaedic ward capacity and will incur additional expense for that RAH on already stretched budgets. This will impact patient experiences too with patients requiring to be transferred from IRH to RAH which could be delayed due to a lack of ambulance prolonging time to surgical procedure required. Overall, a full assessment of its benefits and drawbacks in the Clyde region can only occur once the Major Triage Tool has been implemented to identify further service improvements needed.

-

#23495 : A COVID-19 screening clinic to manage patients surge during the pandemic: The experience of an Italian emergency department**Authors:**

Matteo Paganini (1), Michele Pizzato (2), Eric Weinstein (1), Elena Vecchiato (2), Caterina Compostella (2), Pierfrancesco Tricarico (2), Caterina Onesto (2), Andrea Favaro (2)

1. CRIMEDIM – Research Center in Emergency and Disaster Medicine, University of Eastern Piedmont, Novara, Italy
2. Emergency Department, ULSS 7 Pedemontana - P.O. Bassano, Bassano del Grappa, Italy

Keywords: COVID-19; Surge Capacity; Pandemics; Hospital Disaster Preparedness.

Abstract :

Background: The Veneto was among the first regions in Italy struck by the COVID-19 pandemic at the end of February 2020. The first steps to increase hospital surge capability were immediately enacted, providing each emergency department (ED) in the region with separated tracks and alternate care sites to deal with the forecasted surge of potentially infected patients. We describe the activation of nurse-led, screening clinic for patients presenting to our ED with symptoms consistent with COVID-19.

Methods: Our ED (60,000 visits/year) is part of a Level II Trauma Center with 413 in-patient beds. The hospital's crisis unit was activated on February 23rd, and from March 8th patients that presented with fever or respiratory symptoms were diverted by the triage nurse to this alternate care site that was adjacent to the ED. In this retrospective study we included patients from the opening of the clinic to April 7th. Patients aged ≤ 4 years and with a NEWS score ≥ 5 were sent to the ED for medical attention, and thus excluded from this study. In the clinic, a chest x-ray was performed and blood samples were collected to analyze a standardized panel including CBC with differential, liver and renal functions, lactate dehydrogenase (LDH), procalcitonin, and c-reactive protein (CRP). Due to changes in regional testing policies, the nasopharyngeal swab for SARS-CoV-2 was performed from March 13th. Patients were then sent home and called back 5-6 hours later by an emergency medicine physician: to seek their general practitioner's attention in case of no lab test or chest x-ray abnormalities; to come back for medical evaluation in case of abnormal findings. Patients were then phone-called back 15 days later to check for survival as primary outcome, and the following secondary outcomes: access to any ED; admission to any hospital or ICU; need for ventilatory support. Data are presented with median and IQR in case of quantitative data, whilst qualitative data were described through their distribution frequency.

Results: a total of 171 patients were included in our sample, and none of them was deceased at the follow up call. Their age ranged from 8 to 90 years old (median = 48 [32.5 – 58.5] years old), 52.0% were female, and 90.6% scored ≤ 3 points on NEWS score. Of the 134 patients with no abnormal exams after the workup, 10 reaccessed the ED for reasons other than COVID-19 and three of them were admitted (only two for COVID-19). On the other hand, 37 patients were asked to come back and receive medical attention; during the follow-up, 6 patients accessed the ED a second time, and 4 of these were admitted (all testing positive to COVID-19 swab). None of the admitted patients needed ventilatory support or was treated in an ICU.

Discussion and conclusions The creation of this nurse-led screening clinic had no negative effects on patients' survival at 15 days, and missed few patients who needed a second evaluation or a hospital admission, while preserving ED resilience by diverting the surge of potentially infected patients.

Trial Registration / Funding Information (only) :

No funding declared.

#23497 : Medical clearance of patients presenting with mental health problems to the emergency department since moving to a purpose built new emergency department location

Authors:

Altan Syuleyman (1), Catherine Brown (2), Xiao Meng Ye (2), Koorosh Alaghmand (1), Arjun Thaur (1), Victor Cooke (1), Shumontha Dev (1), Matt May (1), Jamal Mortazavi (1), Pippa Alamango (1), Savvas Papasavvas (2)

1. Emergency Department, Guys and St Thomas' NHS Trust, London, United Kingdom

2. Emergency Department, Guys and St Thomas' NHS Trust, London, United Kingdom

Keywords: mental health, medical clearance, psychiatry, emergency medicine

Abstract :

Mental health patients represent an increasing proportion of presentations to our large city based emergency department (ED). This audit follows a sequence of audits that have been produced in our department assessing quality of physical care in mental health patients. Since our most recent audit, we have relocated to a newly re-structured ED. We aim to review the quality of care following this change.

We have focused on the adherence to the current pathway for medical clearance of mental health patients prior to referral to the mental health team. This is currently a two-stage pathway. In the first stage, all patients are assessed regarding suitability for direct referral to the mental health team. If unsuitable, patients undergo a second stage of assessment in which they undergo full medical assessment by an ED clinician.

Based on previous audits, our aim is that 100% of patients presenting with mental health problems to ED should be assessed using the Mental Health Integrated Care Pathway (MHICP) proforma, have full clinical observations (respiratory rate, oxygen saturations, pulse rate, blood pressure, temperature, GCS and pupil size), a urine dip, blood sugar level and a documented Mental State Examination (MSE). For those deemed unsuitable for the direct pathway, a further medical assessment is necessary and 100% of these patients should be seen by an ED clinician, have a documented full clinical history and a full physical examination.

The Symphony audit tool was used to identify patients who presented to the ED at St Thomas' Hospital with mental health complaints in between September-November 2019. A total of 1748 patients were identified. Patients were randomized and then data was collected from the first 20 appropriate consecutive patients from each week. A total of 123 patients were excluded due to incorrect coding.

Preliminary results reflect inadequacies in assessments prior to medical clearance. Only 40% of patients had the MHICP proforma completed. This is a reduction from 48% in 2017. No patients had a full set of observations. Only 6% of patients had their pupil check documented whereas compliance with performing the other observations was 80-90%. We will continue to review this data to assess overall quality of care in both the direct and indirect pathways used prior to medical clearance.

In order to address these already evident shortcomings we will intervene with a 3-pronged approach. Firstly, we aim to organize targeted teaching sessions for senior staff such as nurses in charge. Secondly, we will influence decision makers such as high level trainee doctors. Finally, we will amend the MHICP proforma to prompt the documentation of assessments currently lacking, for example pupil check. We will then re-audit to assess the impact of our interventions.

#23498 : Screening and analyzing older ED patients for vulnerability: what are the outcomes?

Authors:

Eline De Jong (1), Merel van Loon (2), Christien van der Linden (2)

1. Emergency Department, Haaglanden Medisch Centrum, Amsterdam, The Netherlands

2. Emergency Department, Haaglanden Medisch Centrum, The Hague, The Netherlands

Keywords: geriatric assessment, emergency department, vulnerability

Abstract :

Objective: Screening older patients who visit the Emergency Department (ED) identifies those at risk for geriatric vulnerabilities, such as functional and cognitive decline. In our study we wanted to evaluate whether it is useful to refer patients at risk for more extensive geriatric assessment. Also we investigated if those who may benefit differ in patient characteristics from those who may not benefit.

Methods: This retrospective cohort study is an evaluation of an existing procedure, conducted in a Dutch inner-city ED. Patients ≤ 70 years who visited the ED from October 2018 until March 2019 were screened on functional and cognitive impairment, using the Katz Index of Activities of Daily Living (ADL) and the Six Item Cognitive Impairment Test (6CIT) and falling during the last six months. One internist-geriatrician reviewed medical charts of all patients who were discharged home and tested positive on ≥ 1 of the questionnaires to decide whether further geriatric assessment was indicated. We used descriptive statistics and the Chi-square test to determine differences in patient characteristics for patients who were and were not eligible for further assessment.

Results: Of the 243 positive screened patients, 147 (60%) were discharged. Of these, 26 (18%) patients were expected to benefit from more extensive geriatric assessment, 9 (6%) showed up and 4 (3%) of them received additional analysis or intervention. Patients who were expected to benefit had significantly more often a positive 6CIT-score, compared to patients who were not considered to benefit (OR 6,042; 95% CI: 2,312–15,788). Of the latter group 29 (27%) refused, 27 (22%) scored positive on the risk of falling but only fell once, and 58 (48%) already received sufficient treatment from another caregiver.

Conclusion: The number needed to screen is high and the majority of patients is not likely to benefit from further geriatric assessment. The most discriminating screening method seems to be the 6CIT.

#23499 : The Impact of Tinea Corporis on quality of life: Two cases from Vlore, Albania

Authors:

Glodiana Sinanaj (1), Yllka Stramarko (1), Fatjona Kamberi (2), Brunilda Subashi (2), Jerina Çelaj (2), Kristela Jaupaj (2)

1. Scientific Research Center for Public Health, Scientific Research Center for Public Health, Faculty of Public Health, Vlore, Albania

2. Scientific Research Center for Public Health, Faculty of Public Health, Vlore, Albania

Keywords: Tinea corporis, quality, life, impact.

Abstract :

The Impact of Tinea Corporis on quality of life: Two cases from Vlore, Albania

Glodiana Sinanaj*, Yllka Stramarko, Fatjona Kamberi, Jerina Çelaj, Brunilda Subashi

Purpose: Tinea corporis is a superficial fungal infection caused by dermatophytes on the hairless skin on the trunk and extremities. Ringworm (tinea) is caused by dermatophytes of three generations: Epidermophyton, Trichophyton and Microsporum. Different species have different primary hosts and some are free-living on land. Human infection is favored by heat, humidity and poor hygiene. The lesions produced by each species have a characteristic skin distribution. Typical ring-shaped erythematous lesions with scaly raised edges on glabrous skin are easily confused with those of psoriasis and other suspended or circular erythematous skin lesions with scales such as numerical eczema. Characteristic lesions have a border in expansion and central clearance. Tinea corporis can be prevented by avoiding contact with infected individuals, animals, clothes or furniture. It is also prevented by avoiding places with hot and humid climates. Our goal was to show what patients with tinea corporis suggest, based on their experience with the disease, to improve their lives.

Methods: In this study we are reporting two cases of tinea corporis. Based on qualitative research methods, semi-structured face-to-face interviews were conducted. The patients included in the study were patients diagnosed with tinea corporis and randomly selected from the medical data at the Central Polyclinic in the city of Vlora. We contact them by phone and after the general purpose is explained to them, they express the right to be part of the study.

Results: This study shows the history of the disease, what are the factors and barriers to success in care, management of fungal infections and preventive measures for the relevant cases of the study.

These cases report how the fungal infection progresses, spreads, and can have a strong impact on the health and well-being of those suffering from it, especially if not diagnosed and treated in time.

Key word: Tinea corporis, quality, life, impact.

Attachment: Abstract - EUSEM 2020.docx

#23505 : Should I Talk About This? Resident Comfort With Discussing Diversity**Authors:**

Brian Walsh (1), Frederick Fiessler (2), Danielle Biggs (3), Nicole Riley (2)

1. Emergency Medicine, Morristown Medical Center, Mendham, USA
2. , Morristown Medical Center, Morristown, USA
3. Emergency Medicine, Morristown Medical Center, Morristown, USA

Keywords: Diversity

Abstract :

Background: Recently the ACGME has placed an emphasis on diversity and inclusion and suggests that programs evaluate resident and faculty diversity. Despite this, many consider it a sensitive subject and are uncomfortable discussing these issues. We sought to determine EM residents' comfort level in discussing topics of race, religion, and sexuality in resident education.

Methods: All residents at a regional EM conference were surveyed about their views of diversity. Using an anonymous, online survey with a 5-point Likert scale (1-Definitely Not, 5-Definitely), residents were questioned about their views. Residents were then asked if they feel comfortable discussing issues of race, religion and sexuality with their co-workers and if they tend to have a problem with co-workers who disagree with them on the importance of diversity and inclusion. For calculation purposes, responses were grouped into (1 and 2) versus (4 and 5). Residents' responses were calculated with 95% confidence intervals (CI).

Results: 56 residents from six emergency medicine residencies completed the survey. 55% of respondents identified as male. 46% self-identified as a member of an underrepresented class. 77% (CI: 66,88) reported that they felt comfortable discussing issues of race, religion, and sexuality with their co-workers, compared with only 5% (CI: 0,11) who did not. On the other hand, 23% (CI: 12,34) reported that they tended to have problems with co-workers who disagreed with them on these issues, compared with 55% (CI: 42,68) who did not.

Conclusion: Although the majority of residents report feeling comfortable discussing issues of race, religion and sexuality with co-workers, approximately one-fourth of residents also say they tend to have problems with co-workers who disagree with them. This underscores the highly-charged nature of these discussions and suggests that residents may still be hesitant to discuss their opinions openly with anyone who may disagree with them.

#23507 : Need for recovery amongst Emergency Physicians in the United Kingdom and Ireland: a Trainee Emergency Research Network (TERN) survey study**Authors:**

Laura Cottey (1), Tom Roberts (2), Blair Graham (3), Daniel Horner (4), Kara Stevens (5), Doyo Enki (6), Mark D Lyttle (7), Jos Latour (8)

1. Academic Department of Military Emergency Medicine, , Birmingham, United Kingdom
2. Research Fellow Trainee Emergency Research Network (TERN), Royal College of Emergency Medicine, London, UK, London, United Kingdom
3. Emergency Department, University Hospitals Plymouth NHS Trust, UK and Plymouth University, Plymouth, United Kingdom
4. Professor of the Royal College of Emergency Medicine and Consultant in Emergency and Critical Care Medicine, Salford Royal NHS Foundation Trust, UK, Salford, United Kingdom
5. Faculty of Health, University of Plymouth, UK, Plymouth, United Kingdom
6. Faculty of Medicine & Health Sciences, University of Nottingham, Nottingham, United Kingdom
7. Emergency Department, Bristol Royal Hospital for Children, Bristol, United Kingdom
8. Faculty of Health, University of Plymouth, Plymouth, United Kingdom

Keywords: Fatigue, burnout, Emergency Physicians, Occupational Health, Need for Recovery, wellbeing

Abstract :

Background: Need for recovery (NFR) describes an individuals' need to physically and psychologically recuperate following a period of work and can be measured using the validated 11-item NFR scale. Increased NFR has been reported to be associated with the development of occupational health complaints with effects likely to be cumulative over time. Currently experiencing a workforce challenge, strategies to determine and reduce NFR amongst Emergency Physicians may conceivably reduce rates of burnout, improve wellbeing and aid retention. The objective of this study was to determine the NFR among Emergency Physicians in the United Kingdom and Ireland and to identify characteristics associated with higher NFR scores.

Methods: This study adopted a cross-sectional electronic survey design targeting a representative sample for six weeks from the 3rd June 2019. All Emergency Physicians employed within 112 participating Emergency Department (ED) in the UK and Ireland were eligible. The survey was developed following a single centre feasibility study, a patient and public involvement consultation and adhered to the Checklist for Reporting Results of Internet E-surveys. The final participant survey included the NFR scale plus 44 additional items exploring demographic, occupational and self-perceived wellbeing characteristics. The number of positive responses to NFR items were summated into the NFR score, from 0, indicating lowest attainable NFR, to a maximum of 100. An additional single site survey gathered data on department-specific and workforce characteristics.

The primary outcome was the NFR score. Descriptive statistics are presented along with findings of a multiple regression analysis to determine associations between NFR and relevant characteristics.

Results: The median NFR score for all 4247 eligible consented participants with a valid NFR score was 70.0 (95% CI: 65.5 to 74.5), with an IQR of 45.5 – 90.0. A linear regression model found significant associations between NFR score and the participant characteristics: clinical grade; gender; patient type and long-term health conditions or disabilities. After adjusting for these characteristics, the NFR score increased by 3.7 (95% CI: 0.3 to 7.1) and 6.43 (95% CI: 2.0 to 10.8) for those with difficulty obtaining requested study and annual leave, respectively. Increased percentage of out of hours (OOH) work increased NFR score linearly: 26-50% OOH = 5.7 (95% CI: 3.1 to 8.4); 51-75% OOH = 10.3 (95% CI: 7.6 to 13.0); 76-100% OOH = 14.5 (95% CI: 11.0 to 17.9).

Discussion and Conclusion: Higher NFR scores were observed among Emergency Physicians than

reported in any other profession or population to date. Four non-modifiable demographic factors were noted to decrease NFR; clinical seniority at consultant level, male gender, absence of long-term health condition or disability and working in a paediatric only ED. Three modifiable occupational characteristics were identified associated with increasing NFR score; poor access to study and annual leave and proportion of out of hours work. These factors correlate with previous work and support the hypothesis that broader perceptions of job autonomy and control may be explicitly linked to wellbeing in healthcare. Future strategies to reduce fatigue and improve physician wellbeing and staff retention should target these modifiable characteristics.

Trial Registration / Funding Information (only) :

Trial registration registered at ISRCTN (<https://doi.org/10.1186/ISRCTN21869845>). Funding This project was funded through a grant from the Royal College of Emergency Medicine (Reference number: G/2018/1). Ethical approval This study received proportionate ethical approval by the Health Research Authority and Health and Care Research Wales, Research Ethics Committee reference 19/HRA/2404 and equivalent approvals in Scotland, Northern Ireland and Ireland.

#23508 : Schoolchildren peer-education as an alternative cardiopulmonary resuscitation training method: a randomized control trial**Authors:**

ANASTASIA SPARTINOU (1), KONSTANTINOS SOROKOS (2), VLASIOS KARAGEORGOS (2), PANAGIOTA DARIVIANAKI (3), DIMITRA KISSA (3), VASILEIA NYKTARI (4), ROVITHIS MICHAEL (5), OTHON FRAIDAKIS (6), ALEXANDRA PAPAIOANNOU (7)

1. MD, PhD candidate, University of Crete - School of Medicine, Heraklion Crete, Greece
2. Anaesthesiology trainee, General University Hospital of Heraklion - Greece, HERAKLION - CRETE, Greece
3. Medical student, University of Crete - School of Medicine, HERAKLION, Greece
4. Assistant Professor of Anaesthesiology, University of Crete - School of Medicine, HERAKLION, Greece
5. Assistant Professor, Department of Nursing, Hellenic Mediterranean University, HERAKLION, Greece
6. Consultant of Anaesthesiology - Emergency Department, Venizeleion General Hospital of Heraklion, HERAKLION - CRETE, Greece
7. Associate Professor of Anaesthesiology, University of Crete - Faculty of Medicine, HERAKLION - CRETE, Greece

Keywords: resuscitation, education, cardiopulmonary, training

Abstract :

Background: Out-of-hospital cardiac arrest (OHCA) is a leading cause of death worldwide, with survival rate of less than 10%. The annual training of schoolchildren over the age of 12 is recommended as a mean to improve the rate of bystander cardiopulmonary resuscitation (CPR) and consequently the survival rate after OHCA. The limited availability of healthcare providers is a great constraint for the implementation of CPR training at high schools. The main purpose of the study is to investigate whether a peer education method can be effectively implemented in teaching CPR to schoolchildren.

Methods: A prospective randomized controlled study was performed in all enrolled students from three different high schools, two in urban and one in rural areas, for a 2-year period, from November 2017 to November 2019. Students were randomly assigned into three groups as per their instructor in CPR. The control group was trained by healthcare professionals and the intervention groups were trained by either schoolteachers or high school students. Teachers and students willing to perform as instructors were previously trained by experienced healthcare providers in CPR and CPR training technics through an appropriately designed course. An evaluation of skill and factual knowledge retention was performed six months after initial training. Factual knowledge was assessed with anonymous self-completed questionnaire comprising of 17 questions, while skills were assessed by an experienced instructor while performing CPR. The study was approved by the Greek Ministry of Education and Ethics Committee of the University of Crete and written informed consent was obtained from all students and their parents/ legal guardians. Students who couldn't participate in skill training due to physical limitations weren't evaluated. Study's primary outcome was to investigate whether retention of theoretical knowledge and CPR skills differ depending on the instructor's background. Descriptive statistic were used to analyze data and one-way ANOVA comparisons of the three groups were performed (SPSS v.25 software).

Results: 255 schoolchildren were included in the study. 130 students were males and 125 females with a median age of 14 years old. 173 students came from urban and 82 from rural areas. After randomization, 119 students were allocated in the control group, 53 in the schoolteacher-instructed group and 83 in the student-instructed group. No statistically significant difference was observed among three groups regarding the retention of factual knowledge [$F(2,252)=0.218$, $p=.804$] or CPR skills [$F(2,251)=1.677$, $p=.189$]. The mean MCQ scores per group were: control group 67.46% (SD \pm 15.2), student-instructed group 68.94% (SD \pm 16.1) and schoolteacher-instructed group 67.61% (SD \pm 18.2). The mean skill evaluation score per group were: control group 66.92% (SD \pm 20.45), student-instructed group 61.55% (SD \pm 22.43) and schoolteacher-instructed group 65.69% (SD \pm 21.21).

Discussion: The dissemination of CPR knowledge requires a compulsory and standardized school training program. To compensate for the lack of healthcare providers' availability to take over CPR training in schools, we propose a viable alternative. Students can be taught CPR effectively by their classmates (peer-education), requiring only the presence of a healthcare provider ensuring the credibility of the process.

Trial Registration / Funding Information (only) :

The study was approved by the Greek Ministry of Education and Ethics Committee of the University of Crete and written informed consent was obtained from all students and their parents/ legal guardians. The trial involves non clinical work so it was not registered. This research is co-financed by Greece and the European Union (European Social Fund- ESF) through the Operational Programme «Human Resources Development, Education and Lifelong Learning 2014-2020» in the context of the project "High school students' resuscitation training: the impact of peer education in skill training and self efficacy" (MIS 5048477).

#23509 : Ultrasound EDucation**Authors:**

Lydia Brooke (1), Mohit Arora (2)

1. , Leeds Teaching Hospitals Trust, Wakefield, United Kingdom
2. Emergency Medicine, Leeds Teaching Hospitals Trust, Leeds, United Kingdom

Keywords: ultrasound, education, teaching, PoCUS,

Abstract :

The higher speciality curriculum for emergency medicine includes PoCUS as a mandatory element prior to CCT being awarded. PoCUS education involves ultrasound skill development, competency assessment, credentialing, on-going education and skill maintenance. A range of PoCUS competencies standards have been defined by RCEM, which have been termed as CORE, or Level 1. There are four core clinical applications which are required to be signed off, including FAST (focused assessment with sonography in trauma), Assessment of the Abdominal Aorta & IVC, ELS (Focused echo in life support) and Vascular access (both peripheral and central).

We aimed to introduce a bimonthly Ultrasound Education opportunity to: Improve the educational opportunities in the emergency department; To provide continuous support for trainees while developing ultrasound skills; To increase the number of level 1 competent clinicians in the emergency department; To provide a place for consultants to refresh and update their skills.

Feedback from these sessions has been very positive, including 100% of attendees stating that they felt more confident at using ultrasound on the shop floor following the sessions.

After reviewing the feedback, we are now hoping to increase the amount of sessions to weekly, and to include 'free scanning' sessions where trainees can come to familiarise and practice freely with supervision available if requested. We hope that in the long term, these sessions will increase in the number of level 1 competent clinicians in the department which will in turn increase the amount of opportunity trainees have ultrasound supervision on the shop floor.

#23510 : COVID-19 Myocarditis - A Novel Battle against a Bug

Authors:

Arvinth Soundarrajan (1), Asim Ijaz (2)

1. Associate Specialist, Department of Emergency Medicine, Royal Lancaster Infirmary, University Hospitals of Morecambe Bay NHS Trust, Lancaster, United Kingdom
2. Consultant, Department of Emergency Medicine, Royal Lancaster Infirmary, University Hospitals of Morecambe Bay NHS Trust, Lancaster, United Kingdom

Keywords: COVID-19, Myocarditis, Chest pain, Cardiac biomarkers

Abstract :

COVID-19 became a public health emergency of international concern. The pathogen has been identified as a novel enveloped RNA beta-coronavirus and has been named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The clinic course of SARS CoV-2 infection is mostly characterized by respiratory tract symptoms, including fever, cough, pharyngodynia, fatigue and complications related to pneumonia and ARDS.

Myocarditis is a non-ischemic inflammatory heart muscle disease that can result in cardiac dysfunction and arrhythmias. The etiology of myocarditis is heterogeneous but can be broadly categorized into infectious, toxic or autoimmune insults. Viral myocarditis is the most common etiology in the developed world. The pathophysiology is primarily mediated through myocardial inflammatory infiltrates and necrosis. The diagnostic evaluation typically begins with a clinical history and physical exam. The clinical presentation can be highly variable as patients can present with chest pain, exertional dyspnea and fatigue, or overtly decompensated heart failure and/or cardiogenic shock. The initial ECG can also show variable findings including ST segment deviations, ectopy, conduction abnormalities, sustained arrhythmias or low voltages. Transthoracic echocardiography may show global left ventricular dysfunction; however, localized wall motion abnormalities with pericardial effusions are also common. The diagnosis is more commonly based on a history of chest pain, which may have been preceded by a viral prodrome, elevation in cardiac enzymes and ECG changes.

As was the case in our two patients. First was a 66 year old female, who presented as having new onset dry cough with Shortness of breath. Her blood investigations showed raised inflammatory markers with reduced lymphocytes. Chest Xray done showed bilateral ground glass opacities suggestive of Pneumonia. ECG taken

showed normal sinus rhythm. She had a sudden chest pain while in ED. Repeat ECG taken showed ST segment elevation in V4-V6. She was treated with loading dose of GTN and Aspirin. Serial ECG's done showed resolving ST segment changes with elevation of Troponin. Cardiology opinion was sought who advised conservative management as it could be Viral myocarditis. COVID screening was done which showed positive results. Second case was a 54 year male, who presented with Shortness of breath with no chest pain. His blood investigations showed raised inflammatory markers with reduced lymphocytes. Chest Xray done showed right side ground glass opacities suggestive of Pneumonia. ECG taken showed Sinus Tachycardia and troponin levels were elevated. His COVID screen showed positive results. He was treated as COVID myocarditis.

Data regarding cardiovascular involvement due to SARS-CoV-2 infection are less described. We present these case reports describes cardiac involvement in patients affected by COVID-19.

#23511 : A retrospective cohort study of patients diverted from the emergency department during a major incident**Authors:**

Ayaz Abbasi (1), Hamzah Khawar Khokhar (1), Hadeed Abbasi (1), Raenah Hamzah Khokhar (1)

1. Accident and Emergency, Royal Albert Edward Infirmary, Wigan, Manchester, United Kingdom

Keywords: major incident, A&E attendance, Urgent care centers

Abstract :**Background**

High attendances at Accident and Emergency departments (A&E) cause stress on health care providers. Overcrowding is due to the lack of primary care, its access to people and patients presenting with non-urgent complaints. This study aims to review a specific major incident and consider changes to reduce reliance on Accident and Emergency departments.

Methods

A retrospective cohort study was done at the Royal Albert Edward Infirmary, Wigan (RAEI) after the Wrightington, Wigan and Leigh NHS Trust declared a major incident on 5th February 2020 till 6th of February externally due to failure of internal systems including PACS (imaging) and HIS (electronic patient record). The Trust continued to operate on an internal major incident as part of the recovery phase until 11th February. During this a total of 93 walk-in patients were advised to seek care elsewhere. These patients were contacted by the A&E department and the Clinical Audit Department regarding where they had sought care after being diverted. Amongst this group, 23 patients did not answer, 10 patients had no available contact numbers and 6 patients had provided incorrect details. All these patients were contacted thrice. One patient could not recall attending. The Patient Advice and Liaison Service (PALS) were also given the patient details.

Results

Of the 53 patients who were able to recall their A&E visit and provide information, 2 patients were reviewed at Wigan Infirmary and discharged. 8 patients presented to their GP whilst 2 self-treated at home. 5 patients went to Leigh Walk-In Centre and 2 patients were noted to return to WWL A&E the following day. One patient was referred to the Fracture Clinic at Wigan Infirmary. One patient was referred to the Urgent Treatment Centre. 32 patients went to a total of nine alternative trusts (60%) amongst which 38% went to Royal Bolton Hospital. 29 out of 32 patients were discharged from the A&E departments. Three patients were admitted. One patient was admitted at a psychiatric hospital and 2 patients were admitted at Royal Bolton Hospital. None of the 53 patients died. The purpose of collecting these details was to ensure patient safety and to check if any complaints were made. PALS were given the names of the 93 patients. There were no complaints made through PALS till 28th February 2020.

Discussion and Conclusions

Many patients presenting to the A&E have non-emergency conditions and require only advice. Results were similar to those observed during major sporting events and the COVID-19 pandemic. Urgent care centers can prove to be cost effective alternatives to hospital emergencies for people with non-life-threatening complaints. Patient education and awareness regarding their use will be crucial in determining their positive impact. Considering our results, where 40% of our patients did not require hospital intervention, we recommend urgent care centers alongside the Emergency departments to reduce congestion and overcrowding.

Ethical Approval

Not needed

Trial Registration / Funding Information (only) :

Funding This study did not receive any specific funding.

#23512 : Development and Implementation of a Pilot European Training course for Burn Assessment Teams**Authors:**

Amy Hughes (1), Amy Hughes (2), Tom Potokar (3), Stian Almeland (4)

1. , Interburns, Sudbury, United Kingdom
2. Interburns, Interburns, Sudbury, United Kingdom
3. , Interburns, Centre for Global Burn Injury Policy & Research, Swansea University, United Kingdom
4. Consultant Plastic Surgeon, Norwegian National Burn Centre, University of Bergen, Norway

Keywords: burns training

Abstract :

Mass casualty incidents resulting in burn injuries present some unique challenges. The burn management of those injured requires specialist skills, expert knowledge, and timely availability of specialist resources. With burn mass casualty incidents occurring globally, and a wide variance in existing burn care capacity within low, middle and high –income countries, the need to strengthen burn care capability is evident.

Recent examples of mass casualty incidents with multiple burn injured patients have demonstrated the extensive demands placed on health care workers and local health facilities and the resultant high morbidity and mortality rates. Specialist burn teams are thus well placed to help target specific needs which arise, in particular in supporting local burn resource capacity and capability.

Burn Assessment Team (B–Team) development and implementation has thus been recognised as a priority within both the European Union and the World Health Organization Emergency Medical Team initiative.

Identified as a key component to the strategic development of the Europeans Union’s (EU) capacity as a whole to respond to emergencies resulting in extensive health consequences, the B–Teams form an integral part of the European Medical Corps. In particular, the B–Team role has been identified as:

- a) Ensuring secondary patient assessment and triage;
 - b) Defining the required level of eventual care for the patients; and
 - c) Defining the level of care required during the patient transportation
- to ensure safe transfer conditions

Emergencies in any context resulting in burn injuries demand rapid and intense utilisation of resources and labour. With only a relatively small cohort of clinical and logistical burn expertise globally the co–ordinated up–scaling of such expertise and burn care capacity to support a European (and global) response is desirable.

As a first step in development of deployable European B–Teams, the first pilot course for Burn Assessment Teams was developed and delivered by an expert consortium to 5 European burn teams in January 2020. The provision of a comprehensive and standardised training forms an important step in the B–Team development.

The pilot B–Team training focused on strengthening the knowledge, expertise and deployment preparation of burn specialists for a European response, in particular ensuring participants have an in–depth understanding of the European Response Plan for Mass Burn Casualty Disasters and the mechanisms of Union Civil Protection Mechanism (UCPM). The training also offered a platform for sharing expert knowledge and experiences in burn mass casualty incidents. In addition, the training course provided both a generic and European focus to ensure the knowledge and practical skills acquired by the participants are applicable to a much wider global context.

The desired learning outcomes were achieved through blended learning incorporating immersive simulation, team tasks, e-learning and workshops, and delivered by an operationally experienced global faculty. Feedback from the course was extremely positive and has helped provide a foundation for future Burn Assessment Team courses.

#23513 : Reasons For Patient Referrals To Emergency Departments By The Police**Authors:**

Santosh Bongale (1), Charlotte McMullan (2), Laura Harrison (2)

1. Emergency Medicine Dept, Royal Alexandra Hospital, PAISLEY, United Kingdom
2. Emergency Medicine Dept, Royal Alexandra Hospital, Glasgow, United Kingdom

Keywords: Police Custody Emergency Department Arrest self harm abuse injury

Abstract :

The aim of this study was to describe and elicit characteristics of various patient presentations brought in by the Police to two Scottish Emergency Departments, Royal Alexandra Hospital (RAH) and Inverclyde Royal Hospital (IRH).

Methods:

This was a cross sectional study of a convenience sample at two EDs (RAH and IRH) over a period 6 weeks, between 1st February - 13th March 2020, which were identified from ED database. Inclusion criteria of patients triaged as having been Brought in by Police (BIBP) was applied. Data collected included demographics, clinical data, incident details, patient management, and length of stay in ED. The primary outcomes of interest were ED presentations and time spent in ED prior to discharge. Secondary outcomes included the use of restraint or sedation, and adverse events occurring while in ED.

Results:

A total of 166 presentations of patients BIBP were identified over a 6-week period across the two sites. Patients were predominantly male (68.7%) with a mean age 33 years (range 13-66 years). Mental health accounted for 51.2% of presentations, either as a stand-alone complaint or combined with trauma/injury, alcohol or drug-related issues. Of the 85 cases that presented with mental health issues, only 27 required assessment by the psychiatric team. 26 patients received wound care management. Only 37 out of 166 patients presenting were either admitted to the same hospital or transferred to another NHS healthcare provider. All others were discharged from ED. The mean time spent in ED was 3hrs 40 minutes (range 24min – 10hrs 19min).

Discussion:

Patients BIBP often presented with mental health problems, substance use problems, aggressive behaviour and injury caused by self or others. In this study, most patients BIBP to ED were for mental health reasons (either alone or simultaneously with another presentation), not requiring sedation or restraint. The majority were discharged home with follow up by GP/CPN/IHTT. Despite

only comprising a small proportion of overall ED attendances, they are a group where mental health and drug and alcohol issues are over - represented. Differences in ED care delivery for those BIBP highlights potential opportunities for pre - hospital healthcare interventions. Limited research regarding people BIBP to the ED limits the ability to comprehensively understand their demographic and clinical profile alongside outcomes of emergency care.

#23514 : Patterns of prescription opioid use in Swiss emergency department patients and its association with outcome: a cross-sectional analysis

Authors:

Bertram Voitok (1), Petra Büttiker (1), Svenja Ravioli (1), Georg-Christian Funk (2), Aristomenis K. Exadaktylos (3), Gregor Lindner (1)

1. Department for Emergency Medicine, Bürgerspital Solothurn, Solothurn, Switzerland

2. Karl-Landsteiner-Institute for Lung Research and Pulmonary Oncology, Wilheminspital, Vienna, Austria

3. Department for Emergency Medicine, Inselspital Bern, Bern, Switzerland

Keywords: opioid, mortality, readmission, emergency, complication

Abstract :

Objectives

We aimed to clarify the prevalence, indications, analgesic co-medications and complications of prescription opioid use in patients presenting to a large emergency department (ED).

Design

Cross-sectional analysis.

Setting

Large, interdisciplinary ED of a public hospital.

Participants

All patients presenting between January 1st 2017 and December 31st 2018 with documentation on medication were included.

Interventions

None.

Primary and secondary outcome measures

Prevalence rates for prescription opioid use and its indication. Prevalence of analgesic co-medications in prescription opioid users. Hospitalization rate, 72-hour ED re-consultation rate, 30-day re-hospitalization rate, in-hospital mortality.

Results

A total of 26,224 consultations were included in the analysis. 1,906 (7.3%) patients had prescription opioids on admission to the ED. Main indications for opioid prescriptions were musculoskeletal disease in 1,145 (60.1%) followed by neoplastic disease in 374 (19.6%) of cases. 154 (8.2%) consultations were directly related to opioid intake. 50.1% of patients on opioids also used other classes of analgesics. Patients on prescription opioids were older (76 vs. 62 years, $p < 0.0001$) and females were overrepresented (58 vs. 48.9%, $p < 0.0001$). Hospitalization rate (78.3 vs. 49%, $p < 0.0001$), 72-hour ED re-consultation

(0.8 vs. 0.3%, $p=0.004$), 30-day re-hospitalization (6.2 vs. 1.5%, $p<0.0001$) and in hospital mortality (6.3 vs. 1.6%, $p<0.0001$) were significantly higher with opioid therapy. In 25 cases (1.3%) admission to the ED was due to opioid intoxication.

Conclusions

Daily prescription opioid use is common in patients presenting to the ED. WHO analgesic ladder is often neglected. It appears that patients using prescription opioids are prone to adverse outcomes while intoxication was a minor issue in the present population.

Trial Registration / Funding Information (only) :

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

#23515 : Characteristics of Very Elderly Patients in the Emergency Department – a Retrospective Analysis**Authors:**

Bertram Voitok (1), Svenja Ravioli (1), Georg-Christian Funk (2), Gregor Lindner (1)

1. Department for Emergency Medicine, Bürgerspital Solothurn, Solothurn, Switzerland

2. Karl-Landsteiner-Institute for Lung Research and Pulmonary Oncology, Wilheminspital, Vienna, Austria

Keywords: very elderly patients, comorbidities, readmission, emergency, polypharmacy

Abstract :**Introduction**

Elderly people, defined by age 65 years and older, made up 18.45% of the Swiss Population in 2018 and their number is projected to rise continuously. Data investigating specific characteristics and medical needs of this patient subgroup, especially in the emergency setting, is scarce. There is barely any data investigating the very elderly people aged 90 years and older.

Methods

Demographic data of admission records from all patients aged 65 years or older admitted to our emergency department (ED) between January 1st 2015 and December 31st 2018 were investigated. Furthermore, retrospective chart reviews of age and sex distribution, residency origin, discharge destination, patient outcome, number of medications and 72-hour-reconsultation rate in 2018 were conducted. Comorbidity burden was assessed by Charlson Comorbidity Index. The reasons for ED referral of the very elderly (i.e. ≥ 90 years) were analyzed. Risk factors for death, longer hospitalization and placement in a nursing facility were identified by multivariate regression.

Results

In 2018, a total of 19.673 patients were admitted to the ED, of these 7.442 patients were 65 years or older (37.8%) and 709 patients were 90 years and older (3.6%). The prevalence of elderly patients admitted to the ED between 2015 and 2018 was continuously rising.

In the cohort of nonagenarians, 43.6% lived in nursing facilities and 12.2% were newly discharged to a nursing facility. Interestingly, the length of stay was slightly higher in octogenarians compared to nonagenarians (4.1 days, IQR 1.6-8 vs. 3.9 days, IQR 1.6-7.8; $p < 0.001$).

Age above 90 years, low haemoglobin on admission and high comorbidity burden could be identified as independent risk factor for death. Being aged 80-89 years, taking a high number of regular medications, hypokalaemia, hyponatremia, low haemoglobin on admission, low estimated glomerular filtration rate on admission and high comorbidity burden were independent risk factors for longer hospitalizations. Male sex, low haemoglobin on admission and high comorbidity burden were independent risk factors for placement in a nursing facility.

Conclusion

Overall, the number of elderly patients admitted to our ED is continuously rising and the capacities to treat these patients will have to be scaled up in the near future. There was no difference in overall disease burden, number of medications and hospital length of stay between octogenarians and nonagenarians, but the latter needed to be placed in a nursing home more often. We identified risk factors for mortality, long hospitalisations and need of placement in a nursing facility. It is important for emergency physicians to be aware of these 'red flags' while treating, and especially

discharging, patients in the ED.

Trial Registration / Funding Information (only) :

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

#23518 : The role of hyperbaric oxygen therapy in blunt thoracic trauma

Authors:

David Jutric (1), Dejan Andrić (2), Domagoj Đikić (3)

1. Emergency medicine resident, Clinical Hospital Dubrava, Zagreb, Croatia
2. Specialist in hyperbaric, undersea, and marine medicine; Director of the hyperbaric Oxy Polyclinic, Oxy Polyclinic, Zagreb, Croatia
3. Professor of Animal Physiology and Toxicology, Faculty of Science, University of Zagreb, Zagreb, Croatia

Keywords: hyperbaric oxygen therapy, acute respiratory distress syndrome, blunt, trauma, thorax, stroke volume index, PaO₂/FiO₂ ratio

Abstract :

BACKGROUND: Hyperbaric oxygen therapy (HBOT) is a way of improving outcomes of conditions and diseases by delivering pure oxygen at greater than atmospheric pressure, and is a primary treatment for decompression disease and air embolism. Blunt trauma to the thorax (BTT) causing cardiac arrest carries a high mortality rate. The increased chances of lung contusion and myocardial depression after BTT, significantly increase the risk of acute respiratory distress syndrome (ARDS) development, which has a fatality rate of 50-75%. Previously, it was documented that survivors had higher concentrations and consumption rates of oxygen. Despite the earlier demonstrated increased survival rates after HBOT exposure in various experimental models of ARDS and BTT, further research has not been conducted.

METHODS AND MATERIALS: This is a systematic review article and the pubmed database was primarily used. Using the keywords hyperbaric oxygen therapy and blunt thoracic trauma, two articles were obtained.

RESULTS: In 1976, Filipov S. et al., found that HBOT significantly improved the arterial blood oxygen saturation in experimental BTT models. This reduced and/or prevented the development of morphologic changes associated with hypoxia in the early post-trauma period. Recently, Rogatsky G.G. et al., demonstrated a zero percent fatality rate among HBOT treated patients who developed ARDS after severe BTT, and a 77% fatality rate in those treated with conventional methods only. The group treated with HBOT had significantly higher cardiac stroke volume indices (SVI) and PaO₂/FiO₂ ratios, with p being less than 0.001, in the period when rapid and lethal deteriorating cardiorespiratory parameters developed in the non-survivors. In the initial 24 hours from the moment of trauma, there was a reduction in the mean values of all parameters in all groups.

DISCUSSION AND CONCLUSION: Rogatsky G.G. et al. demonstrated that ARDS formation was dependent on both cardiac and pulmonary gas exchange dysfunction following BTT. The highly significant statistical increase in both SVI and PaO₂/FiO₂ and lack of mortality in the HBOT treated group, suggests that this is the preferred adjuvant therapy for severe blunt thoracic trauma

patients. Initially, if cardiac arrest is present, immediate resuscitative field thoracotomy with supportive measures such as the management of hypothermia, coagulopathy, acidosis, and head trauma in the field should be carried out. Any potential pneumothorax, a major contraindication to HBOT, would be eliminated by this method, also. In addition, HBOT should be applied as soon as possible after trauma, to improve the pulmonary and cardiac function before ARDS develops. Other benefits of HBOT in BTT are the recompression of air embolisms, prevention of brain anoxia and ischemic reperfusion injury, increased rates of ROSC return after prolonged hypoxia, and enhanced bone healing. Nature has decreed that proper oxygen concentrations must be present in tissues in order for healing to take place, and oxygen is one of the most essential components of the body's energy production and construction. The research of HBOT's role in BTT should be expanded.

#23520 : Covid-19 and hiv patients: a case report from s. matteo university hospital in pavia (italy)

Authors:

Giulia Maria Vezzoni (1), Bruno Barcella (2), Lorenzo Demitry (2), Giovanni Cappa (2), Marzia Delorenzo (2), Flavia Resta (2), Gianmarco Secco (2), Caterina Zattera (2), Marco Vecchia (3), Raffaele Bruno (3), Stefano Perlini (4), Francesco Salinaro (4)

1. Emergency Department, University of Pavia, Segrate, Italy
2. Emergency Department, University of Pavia, Pavia, Italy
3. Infectious Disease Unit, IRCCS Policlinico San Matteo , Pavia, Italy
4. Emergency Department, IRCCS Policlinico San Matteo , Pavia, Italy

Keywords: Covid-19, Hiv, Sars-Cov-2, Lung Ultrasound

Abstract :

In Italy, Coronavirus Disease 2019 (COVID-19) has become an epidemic since March 2020. Pneumonia caused by SARS-CoV-2 is associated with significant morbidity and mortality. The effect of HIV with low CD4 count on the course of COVID-19 is unknown. We report successful recovery from SARS-CoV-2 pneumonia of a patient with HIV/AIDS, admitted to our Emergency Department (ED) of San Matteo University Hospital in Pavia.

On March 26, 2020, S.M.G., male, caucasian, 56 years old, came to our attention presenting with fever and cough since 5 days. He was diagnosed with HIV in 1993. Currently in therapy with dolutegravir 50 mg once daily (OD) and lamivudine 300 mg OD. On January 14, the HIV viral load was undetectable with 1878 total lymphocytes/ μ l.

On admission, physical examination was normal, the body temperature was 38° C, with a systemic blood pressure of 115/75 mmHg, a cardiac rate of 86 bpm, a respiratory rate of 20 breaths per minute and an oxygen saturation of 95% while he was breathing ambient air. CPK and CPR were elevated (341 mU/l and 5,09 mg/dl, respectively), while platelets and lymphocytes were low (117000/ μ l and 1400/ μ l).

The lung ultrasound showed a suggestive pattern of interstitial lung disease associated with bilateral subpleural consolidations in the postero-inferior scans (Fig. 1, 2). The total Lung Ultrasound Score (LUS) was 10.

The chest x-ray, performed at the admission was compatible with a viral interstitial pneumonia.

RT-PCR for detection of coronavirus RNA, performed on his nasopharyngeal swab on March 26, was weakly positive. Due to his symptoms, chest x-ray, LUS and his previous history associated with a swab positive for SARS-CoV-2, the patient was hospitalized in the Infectious Disease Department, transferred in a COVID-19 ward.

During the hospitalization, from March 26 to April 8, the patient was treated with hydroxychloroquine 200 mg every 8 hours, azithromycin 500 mg OD, ceftriaxone 1g OD, antithrombotic prophylaxis with heparin, hydration and home therapy. He never needed O2 therapy.

On March 27 a second nasopharyngeal swab was performed which was clearly positive for SARS-CoV-2. The two following nasopharyngeal swabs performed on March 31 and April 4 were negative. He repeated blood test with normalization of platelets and lymphocytes and decrease of CPR and CPK. He was also tested twice for Interleukins 1-2-6-8-10, interferon gamma and TNF alpha with a normalization of all levels, except for IL-6 and IL-8 that were greatly reduced. HIV RNA (March 28) analysis was positive with a value of 225 cp/ml, total lymphocytes 1465/ μ l. He was discharged on April 8 in good clinical conditions, with an indication of a follow-up visit for HIV control.

Future research in larger cohorts will clarify the effect of HIV positivity on the clinical course of SARS-CoV-2 infections, particularly in relation to different CD4 counts. It is possible that the immunosuppression caused by HIV could be beneficial in the treatment of COVID-19; alternatively, the immunosuppressant drugs could impair a prompt and durable immune response of the organism.

#23521 : D-DIMER AS A MARKER OF ACUTE PSYCHOLOGICAL DISTRESS IN THE EMERGENCY DEPARTMENT: A CASE REPORT.

Authors:

Antonella Fischetti (1), Filomena Scarano (2), Mauro Giordano (2)

1. Department of Advanced Medical and Surgical Sciences, University of Campania "L. Vanvitelli", Avellino, Italy

2. Department of Advanced Medical and Surgical Sciences, University of Campania "L. Vanvitelli", NAPLES, Italy

Keywords: d-dimer, psychological stress

Abstract :

Brief clinical history: with relevant positive and negative features in both history and clinical examination.

A 52-year-old man was admitted to our Emergency Department for acute agitation after an argument at the workplace. The patient was awake but not collaborative and he referred a vague abdominal pain. The vitals were stable except for a respiratory rate = 28 breath per minute, and the physical examination was unremarkable. The ECG was negative for acute events. The blood tests showed a d-dimer concentration of 2878 ng/ml [normal value < 255 ng/ml] and were otherwise normal. The arterial blood gas analysis showed a respiratory alkalosis and a metabolic acidosis with lactate = 7.6 mmol/L.

We administered 5 mg of diazepam intravenously with the resolution of the acute agitation. Then we collected the past medical history that was unremarkable. A second blood test was taken 4 hours later and showed a d-dimer of 103 ng/ml. The patient was discharged after 6 hours of observation with the diagnosis of acute psychological distress.

Misleading elements – history, examination, investigations:

Our patient was agitated and uncollaborative and he referred a vague abdominal pain.

In order to rule out organic emergencies, we performed a Point of Care Ultrasound (POCUS), which showed no free fluid in the abdomen or splanchnic organs injuries, non-dilatated abdominal Aorta and normal myocardial walls motion. The chest x-ray was negative.

The patient became collaborative after the diazepam administration and he referred the argument at the workplace. At that point, we started thinking of a psychological distress status, although the blood test results mislead us toward a diagnosis of organic disease.

Helpful details – history, examination, investigations:

Considering that after the administration of diazepam the patient became completely asymptomatic, we decided to postpone further tests and to admit the patient to the intensive observation unite. After 4 hours, we repeated the blood tests that showed a d-dimer concentration of 103 ng/ml. Blood gas analysis was normal and serum lactate was 1.1 mmol/l.

Differential and actual diagnosis:

Our clinical approach ruled out abdominal and cardiovascular emergencies and the diagnosis of acute psychological distress was done.

What is the educational and/or clinical relevance of the case(s)?

D-dimer is one of the major fibrin degradation products and it increases when active clotting is present. D-dimer is widely validated for the evaluation of thromboembolic diseases and coagulation disorders. Some Authors describe an association between d-dimer elevation and psychological distress, but this relation is

rarely considered in the clinical practice in the Emergency Department. This case report is to remark the value of this association. D-dimer is a high sensitivity and low specificity test. It is, therefore, a useful tool to rule out emergent diseases. However, we must consider that the d-dimer elevation can be caused by acute psychological distress in absence of organic diseases. Keeping in mind this hypothesis could save time in the management of non-collaborative patients with d-dimer elevation in the emergency setting.

The patient has given consent to have details submitted.

#23522 : Post-concussion symptoms in sports-related mild Traumatic Brain Injuries (mTBI) compared to non-sports related mTBI**Authors:**

Frédérique Beauchamp (1), Valérie Boucher (2), Xavier Neveu (2), Vincent Ouellet (1), Patrick Archambault (2), Simon Berthelot (2), Jean-Marc Chauny (3), Elaine de Guise (4), Marcel Émond (2), Jérôme Frenette (2), Eddy Lang (5), Jacques Lee (6), Éric Mercier (2), Lynne Moore (2), Marie-Christine Ouellet (7), Jeffrey Perry (8), Natalie Le Sage (2)

1. Université Laval, none, Québec, Canada
2. CHU de Québec-Université Laval Research Center, none, Québec, Canada
3. Université de Montréal, none, Montréal, Canada
4. Research-Institute, McGill University Health Centre, none, Montréal, Canada
5. University of Calgary, none, Calgary, Canada
6. Schwartz/Reisman Emergency Medicine Institute, none, Toronto, Canada
7. Centre interdisciplinaire de recherche en réadaptation et intégration sociale (Cirris), none, Québec, Canada
8. Ottawa Hospital Research Institute, none, Ottawa, Canada

Keywords: Brain injuries, Post-concussion syndrome, Sports, Sports-related mTBI

Abstract :

Background: Mild traumatic brain injury (mTBI) is a serious public health issue and as much as one third of mTBI patients could be affected by persistent post-concussion symptoms (PPCS) three months after their injury. Even though a significant proportion of all mTBIs are sports-related (SR), little is known on the recovery process of SR mTBI patients and the potential differences between SR mTBI and patients who suffered non-sports-related mTBI. The objective of this study was to describe the evolution of PPCS among patients who sustained a SR mTBI compared to those who sustained non sport-related mTBI.

Methods: Study design and setting: This multicentre prospective cohort study took place in seven large Canadian Emergency Departments (ED) (five level I trauma centres, one level II trauma center and one academic non-trauma centre) between 04/07/2010 and 30/09/2018. **Inclusion criteria:** patients aged ≥ 14 who had a documented mTBI that occurred within 24 hours of ED visit, with a Glasgow Coma Scale score of 13-15. **Exclusion criteria:** Patients who were admitted following their ED visit or unable to consent. **Procedures:** Consecutive potential participants were identified by the treating emergency physicians. Informed consent was obtained, and clinical and sociodemographic information were collected during the initial ED visit. A research assistant then conducted phone follow-ups at 7, 30 and 90 days post-injury, in which they assessed symptom evolution using the validated Rivermead Post-concussion Symptoms Questionnaire (RPQ). **Primary outcome:** presence of ≥ 3 symptoms of ≥ 2 points at 90-days. **Secondary outcomes:** prevalence of 1) individual RPQ symptom (≥ 2 points) 2) total RPQ score ≥ 21 and 3) return to normal activities. **Statistical methods:** Adjusted risk ratios (RR) were calculated to estimate the influence of co-injuries.

Results: A total of 1676 mTBI patients were included, 358 (21.4%) of which sustained a SR mTBI. Median age was 39 years old (Q1-Q3: 23-57) and 60% of our cohort were males. At 90 days post-injury, patients who suffered a SR mTBI seemed to be significantly less affected by fatigue (RR: 0.70 (95% CI: 0.50-0.97)) and irritability (RR: 0.60 (95% CI: 0.38-0.94)). However, no difference was observed between the two groups regarding each other symptom evaluated in the RPQ. Moreover, the proportion of patients with three symptoms or more, a score ≥ 21 on the RPQ and those who did return to their normal activities were also comparable.

Conclusion: Although persistent post-concussion symptoms are slightly different depending on the mechanism of trauma, our results show that patients who sustained SR-mTBI could be at lower risk of experiencing some types of symptoms 90 days post-injury, in particular, fatigue and irritability.

Trial Registration / Funding Information (only) :

Funding: This study was funded by the Fondation du CHU de Québec-Université Laval and by the Canadian Institutes of Health Research.

#23523 : Influence of concomitant injuries on post-concussion symptoms after a mild traumatic brain injury**Authors:**

Vincent Ouellet (1), Valérie Boucher (2), Frédérique Beauchamp (1), Xavier Neveu (2), Patrick Archambault (2), Simon Berthelot (2), Jean-Marc Chauny (3), Elaine de Guise (4), Marcel Émond (2), Jérôme Frenette (2), Eddy Lang (5), Jacques Lee (6), Éric Mercier (2), Lynne Moore (2), Marie-Christine Ouellet (7), Jeffrey Perry (8), Natalie Le Sage (2)

1. Université Laval, none, Québec, Canada
2. CHU de Québec-Université Laval Research Center, none, Québec, Canada
3. Université de Montréal, none, Montréal, Canada
4. Research-Institute, McGill University Health Centre, none, Montréal, Canada
5. University of Calgary, none, Calgary, Canada
6. Schwartz/Reisman Emergency Medicine Institute, none, Toronto, Canada
7. Centre interdisciplinaire de recherche en réadaptation et intégration sociale (Cirris), none, Québec, Canada
8. Ottawa Hospital Research Institute, none, Ottawa, Canada

Keywords: mild traumatic brain injury, concomitant injuries, post-concussion syndrome

Abstract :

Background: Each year, 3/1000 Canadians sustain a mild traumatic brain injury (mTBI). Many of those mTBI are accompanied by various concomitant injuries such as dislocations, sprains, fractures or internal injuries. A number of those patients, with or without concomitant injuries will suffer from persistent post-concussive symptoms (PPCS) more than 90 days post injury. However, little is known about the impact of concomitant injuries on mTBI outcome. This study aims to describe the impact of concomitant injuries on PPCS and on patient return to normal activities.

Methods: *Study design and setting:* This multicentre prospective cohort study took place in seven large Canadian Emergency Departments (ED) (five level I trauma centres, one level II trauma center and one academic non-trauma centre) between 04/07/2010 and 30/09/2018. *Inclusion criteria:* patients aged ≥ 14 who had a documented mTBI that occurred within 24 hours of ED visit, with a Glasgow Coma Scale score of 13-15. *Exclusion criteria:* Patients who were admitted following their ED visit or unable to consent. *Procedures:* Consecutive potential participants were identified by the treating emergency physicians. Informed consent was obtained and clinical and sociodemographic information were collected during the initial ED visit. A research assistant then conducted phone follow-ups at 7, 30 and 90 days post-injury, in which they assessed symptom evolution using the validated Rivermead Post-concussion Symptoms Questionnaire (RPQ). *Primary outcome:* presence of ≥ 3 symptoms of ≥ 2 points at 90-days. *Secondary outcomes:* prevalence of 1) individual RPQ symptom (≥ 2 points) 2) total RPQ score ≥ 21 and 3) return to normal activities. *Statistical methods:* Adjusted risk ratios (RR) were calculated to estimate the influence of co-injuries.

Results: A total of 1674 patients were included, of which 1023 (61.1%) had at least one concomitant injury. Median age was 39 (Q1-Q3: 23-57) and 60% were male. At 90 days, patients with concomitant injuries seemed to be at higher risk of having 3 symptoms ≥ 2 points

according to the RPQ (RR: 1.28 95% CI 1.02-1.61) and of experiencing the following symptoms: dizziness (RR: 1.50 95% CI 1.03-2.20), fatigue (RR: 1.35 95% CI 1.05-1.74), headaches (RR: 1.53 95% CI 1.10-2.13), taking longer to think (RR: 1.50 95% CI 1.07-2.11) and feeling frustrated (RR: 1.45 95% CI 1.01-2.07). We also observed that patients with concomitant injuries were at higher risk of non-return to their normal activities (RR: 2.31 95% CI 1.37-3.90).

Conclusion: Patients with concomitant injuries could be at greater risk of suffering from specific symptoms at 90 days post-injury and to be unable to return to normal activities 90 days post-injury. A better understanding of the impact of concomitant injuries on mTBI could improve patient management. However, further research is needed to determine if the differences shown in this study are due to the impact of concomitant injuries on mTBI recovery or to the concomitant injuries themselves.

Trial Registration / Funding Information (only) :

Funding: This study was funded by the Fondation du CHU de Québec-Université Laval and by the Canadian Institutes of Health Research.

#23525 : Introduction of Methoxyflurane (Pentrox®) to the Emergency Department in order to liberate vital resources during a pandemic: a quality improvement project report

Authors:

Peter Blenkinsop (1), Jamie Willson (1), Rosie Malins (1), Jayne McKinlay (1)

1. Emergency Department, North Bristol Trust NHS, Bristol, United Kingdom

Keywords: Pentrox®, Pandemic, quality improvement

Abstract :

Background:

On 30th January 2020, NHS England declared a major incident in response to the global health threat from SARS CoV-2 causing COVID-19. This resulted in nation-wide strategic planning to prepare Emergency Departments to receive unprecedented numbers of hospital attendances. Innovative ways to protect precious resources have been widely implemented across the UK. In North Bristol NHS Trust's Emergency Department we have replaced 'procedural sedation' (propofol/fentanyl/ketamine/midazolam) with an inhaled analgesic, methoxyflurane (Pentrox®), as a method of adequate patient-controlled analgesia when reducing fractured/dislocated bones in order to free up resuscitation beds, clinical staff and Personal Protective Equipment. Treating patients with Pentrox® in low risk areas of the Emergency Department instead of sedating the patient in the resuscitation bays (high risk) also has allowed us to reduce the potential for nosocomial transmission of SARS CoV-2.

Methods:

For this Quality Improvement (QI) project the authors used the Define Measure Analyse Improve Control (DMAIC) six sigma method to implement Pentrox® for analgesia in reducing fractured/dislocated bones. The authors started this project by liaising with pharmacy and senior clinicians and discussing how Pentrox might play a part in freeing up resources during a pandemic. Staff were trained to use Pentrox® with a digital training package. A database of clinician training was then stored for governance purposes. Digital data collection on Pentrox® usage using a survey accessed via QR code with subsequent weekly data analysis helped us refine our quality improvement methods over time. As well as digital data capture, ideas for project improvement/concerns were ascertained from departmental Clinical Governance Meetings via online forum. This allowed rapid feedback and subsequent change. Staff awareness of the drug was increased with departmental posters and email/ secure messaging groups.

Results:

99 members of the Emergency Department clinical staff completed the online training package, with the majority of staff (68) being trained in the first 3 weeks. Pentrox® has been used in 24 cases over a 7 week period with no reports of significant adverse events. 79 % of cases did not require formal procedural sedation. Cases where Pentrox® was not adequate included bilateral and unilateral dislocated shoulders, elbow dislocation and a fractured radius.

Conclusion

Pentrox® provided adequate analgesia to successfully reduce 79% of dislocated/fractured bones over a 7 week period in our Emergency Department. This has freed up 19 resuscitation beds, nurses and doctors including their enhanced resuscitation level Personal Personal Equipment and potentially protected our patients from nosocomial infection risks during a major incident. Capturing the data digitally allowed rapid analysis and subsequent changes that helped us deliver a high standard of care, whilst liberating vital resources in the COVID-19 pandemic. Involving pharmacy and senior clinicians early in the process of change is key to a rapid implementation of Pentrox® to the Emergency Department

#23526 : The Ambulance Cardiac Chest Pain Evaluation in Scotland Study (ACCESS): a prospective cohort study**Authors:**

Jamie Cooper (1), James Ferguson (1), Lorna Donaldson (2), Kim Black (1), Kate Livock (3), Judith Horrill (1), Elaine Davidson (4), Neil Scott (5), Amanda Lee (5), Takeshi Fujisawa (6), Kuan Ken Lee (6), Atul Annand (6), Anoop Shah (6), Nicholas Mills (6)

1. Emergency Department, Aberdeen Royal Infirmary, NHS Grampian, Aberdeen, United Kingdom
2. Scottish Ambulance Service, NHS Grampian, Aberdeen, United Kingdom
3. Programme Manager in Unscheduled Care, NHS Grampian, Aberdeen, United Kingdom
4. Clinical Biochemistry Department, NHS Grampian, Aberdeen, United Kingdom
5. Department of Medical Statistics, University of Aberdeen, Aberdeen, United Kingdom
6. BHF Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom

Keywords: Chest pain, risk score, troponin, myocardial infarction

Abstract :**Background**

Patients with chest pain suspicious of an acute coronary syndrome are often attended to by ambulance but only the minority have electrocardiographic changes consistent with a myocardial infarction. The HEART score is widely used in Emergency Departments and has been shown to reliably differentiate those at high risk of non-ST elevation myocardial infarction, requiring specialist management, and individuals at low risk suitable for early discharge.

If the use of the HEART score by paramedics in the pre-hospital environment was similarly accurate it may lead to identification of low risk populations suitable for management without hospital transfer, and streamlining of those patients at highest risk to specialist cardiac centres.

Methods

Prospective cohort study in Northeast Scotland (UK) of adult patients (≥ 18 years) with chest pain suspicious of an acute coronary syndrome and a non-diagnostic electrocardiogram. Wholly paramedic derived HEART scores incorporating three distinct troponin assays: a point of care test and also on laboratory based contemporary and high sensitivity platforms. Low risk HEART was defined as ≤ 3 and high risk ≥ 7 . The primary endpoint was a major adverse cardiac event at 30 days and the secondary outcome the development of myocardial infarction or cardiac death.

Results

Of 1,054 patients (mean age 64 and 42% women), 284 (27%) suffered an adverse cardiac event at 30 days and 204 (19%) fulfilled the secondary outcome. Overall discriminatory capacity for the HEART score was best with the contemporary assay (AUROC 0.79, 95%CI 0.76-0.82). Point of care HEART ≤ 3 demonstrated sensitivity 87% and NPV 87%; contemporary HEART sensitivity 93% and NPV 94%; and high sensitivity HEART sensitivity 91% and NPV 92%. HEART ≥ 7 did not outperform an individual troponin value (of any assay) $>99^{\text{th}}$ centile upper reference limit for the prediction of the primary or secondary outcome.

Conclusions

Paramedics can use the HEART score to discriminate risk well but HEART ≤ 3 does not have sufficient rule-out performance pre-hospital and HEART ≥ 7 is inferior to troponin $>99^{\text{th}}$ centile alone URL alone in prediction of myocardial infarction. Future work should concentrate on evaluating very low levels of troponin, incorporated into the HEART score, or otherwise to improve diagnostic performance in this environment.

Trial Registration / Funding Information (only) :

This study was approved by the National Ethics Committee (REC ref: 14/NS/1037), registered in the Research Registry (UIN 2671) www.researchregistry.com, and was conducted with the written informed consent of all participants in accordance with the Declaration of Helsinki. FUNDING AND DECLARATIONS The study was funded by the Digital Health & Care Institute (DHI), Scotland and by the NHS Grampian Endowment Fund. Samsung provided the point of care devices and test discs. The funders had no role in study design, data collection, or interpretation, or the writing of the report.

#23529 : Lack of association between four biomarkers and the presence of persistent post-concussion symptoms after a mild traumatic brain injury

Authors:

Natalie Le Sage (1), Jérôme Frenette (1), Jean-Marc Chauny (2), Simon Berthelot (1), Patrick Archambault (1), Jeffrey Perry (3), Jacques Lee (4), Eddy Lang (5), Andrew McRae (5), Xavier Neveu (1), Pier-Alexandre Tardif (1), Valérie Boucher (1), Éric Mercier (1), Marcel Émond (1)

1. CHU de Québec-Université Laval Research Center, none, Québec, Canada
2. Université de Montréal, none, Montréal, Canada
3. Ottawa Hospital Research Institute, none, Ottawa, Canada
4. Schwartz/Reisman Emergency Medicine Institute, none, Toronto, Canada
5. University of Calgary, none, Calgary, Canada

Keywords: Mild traumatic brain injury, S100B protein, NSE, c-Tau, GFAP, biomarkers

Abstract :

Background: Mild Traumatic Brain Injury (mTBI) is a common problem: each year in Canada, its incidence is estimated at 500–600 cases per 100 000. Between 10 and 56% of mTBI patients develop persistent post-concussion symptoms (PPCS) that can last for more than 90 days. It is therefore important for clinicians to identify patients who are at risk of developing PPCS. We hypothesized that blood biomarkers drawn upon patient arrival to the Emergency Department (ED) could help predict PPCS. The main objective of this project was to measure the association between four biomarkers and the incidence of PPCS 90 days post mTBI.

Methods: *Study design and setting:* This multicentre prospective cohort study took place in seven large Canadian Emergency Departments (ED) (five level I trauma centres, one level II trauma center and one academic non-trauma centre) between 30/04/2014 and 30/09/2018. *Inclusion criteria:* patients aged ≥ 14 who had a documented mTBI that occurred within 24 hours of ED visit, with a Glasgow Coma Scale score of 13–15. *Exclusion criteria:* Patients who were admitted following their ED visit or unable to consent. *Procedures:* Consecutive potential participants were identified by the treating emergency physicians. Informed consent was obtained, sociodemographic and clinical data as well as blood samples were collected in the ED. A research assistant then conducted phone follow-ups at 7, 30 and 90 days post-injury, in which they assessed symptom evolution using the validated Rivermead Post-concussion Symptoms Questionnaire (RPQ). The following biomarkers were analyzed using enzyme-linked immunosorbent assay (ELISA): S100B protein, Neuron Specific Enolase (NSE), cleaved-Tau (c-Tau) and Glial fibrillary acidic protein (GFAP). *Primary outcome:* The presence of persistent symptoms at 90 days after mTBI, as assessed using the RPQ. *Statistical methods:* A ROC curve was constructed for each biomarker.

Results: 1276 patients were included in the study. The median age for this cohort was 39 (Q1–Q3: 23–57) years old, 61% were male and 15% suffered PPCS. The median values (IQR) for patients with PPCS compared to those without were: 43 pg/mL (26–67) versus 42 pg/mL (24–70)

for S100B protein, 50 pg/mL (50–223) versus 50 pg/mL (50–199) for NSE, 2929 pg/mL (1733–4744) versus 3180 pg/mL (1835–4761) for c-Tau and 1644 pg/mL (650–3215) versus 1894 pg/mL (700–3498) for GFAP. For each of these biomarkers, Areas Under the Curve (AUC) were 0.495, 0.495, 0.51 and 0.54, respectively.

Conclusion: Among mTBI patients, S100B protein, NSE, c-Tau or GFAP during the first 24 hours after trauma do not seem to be able to predict PPCS. Future research testing of other biomarkers is needed in order to determine their usefulness in predicting PPCS when combined with relevant clinical data.

Trial Registration / Funding Information (only) :

Funding: This study was funded by the Canadian Institutes of Health Research and by the Fondation du CHU de Québec-Université Laval.

#23530 : Learning from death - introducing a process for retrospective case record review for all deaths in the ED**Authors:**

Hermione Burn (1), Melissa King (2), Alison Hieatt (2), Susan Robinson (2)

1. , University of Cambridge, School of Clinical Medicine, Cambridge, United Kingdom

2. , Cambridge University Hospitals NHS Trust, Cambridge, United Kingdom

Keywords: retrospective case note review, patient safety, mortality review, structured judgement review, clinical governance

Abstract :

Background: Retrospective review of case records is a recognised method used to identify shortcomings in a patients' care, subsequently allowing clinicians to implement changes to improve care. In 2017 the use of retrospective case record reviews (RCRR) was mandated for deaths of all 'in scope' inpatients across the UK by the National Quality Board, as part of National Guidance on Learning from Deaths. Notably, 'in scope' did not include the review of patients who die within the Emergency Department (ED). Whilst there are some existing retrospective audits of patient deaths in ED found in the literature, these have been less focussed on clinical governance and *learning* from deaths rather more on patient demographic, comorbidities and pathophysiological classification; mortality statistics; and cause of death. Thus, despite not being routinely used in EDs, our NHS Trust chose to include ED deaths in its RCRR reviewing process, in the expectation that it would help highlight opportunities to improve patient care.

Objectives: To review the care received by the patients and assess the avoidability of death. Where appropriate identify the contributing factors to substandard care or avoidable death and subsequently areas for learning. Where necessary, seek to change departmental process and practise to prevent reoccurrence and enhance patient safety. To thematically analyse RCRRs to identify any common or recurrent themes. To review the perceived utility of retrospective review of patient deaths in the ED and identify methods by which it can be improved.

Methods: In the first year of this programme the case notes of every patient who died in the ED were reviewed by a consultant in Emergency Medicine who was not involved in the patient's care. The RCRRs were conducted using Structured Judgement Review methodology (delivered by Royal College of Physicians) to appraise the quality of care received by the patient and whether there was an element of avoidability in the patient's death with objective justification for these answers. In this review, inductive thematic analysis was conducted by the authors using the completed RCRRs and relevant information from patient records to identify recurring themes and learning points. Consultant opinion about the utility and process of using RCRRs was assessed via mixed free text and Likert scale questions in an online questionnaire.

Results: 71 patients died in the ED over the twelve-month period (mortality rate 6.0/10,000). One of these deaths was deemed potentially avoidable. Of those who died, most were elderly with multiple co-morbidities or were patients who were living with life-threatening chronic illness. Direct departmental changes have been made as a result of individual RCRRs, for example, the development of new, clear guidelines for our procedure for penetrating chest trauma. Thematic analysis found one-third of the RCRRs generated significant learning points, including the need for more proactive end of life planning. The questionnaire uncovered consultants' discomfort when passing judgement on avoidability of death. The authors conclude that the analysis of the RCRRs is worthwhile and make suggestions for how the process can be better adapted for the emergency setting.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding. This study is not a registered trial. It was registered via Trust audit processes as a service evaluation (reg. 2991).

#23531 : Prospective cohort study of awake proning in COVID19 patients in the emergency department (PAD19)**Authors:**

Dominika Goroszeniuk (1), Jasmit Mohindru (2), Shweta Gidwani (2), David Shackleton (1), Tulika Rajen (3), Santiago Martinez-Sosa (1), Meadhbh Mcveigh (1), Natalie Murray (1), Natalie Ring (2), Aisha Shah (1), Ece Nur Cinar (1)

1. , NHS, London, United Kingdom
2. Emergency Medicine, NHS, London, United Kingdom
3. Emergency Medicine , NHS, London, United Kingdom

Keywords: Awake proning, Emergency department, COVID-19, pneumonitis, ARDS, respiratory failure, hypoxia, NIV, ICU, ABG

Abstract :**Introduction:**

Multiple studies have found prolonged proning for longer periods of time to be beneficial for ventilated patients. There is no current evidence for proning in local Emergency Departments (ED). Within the COVID-19 pandemic, multiple patients are presenting with acute respiratory pneumonitis and respiratory failure. If suitable hypoxic patients can be assessed to undergo proning in the ED, we can evaluate if the benefits of proning can be utilised in patients that do not currently fit the criteria for non-invasive ventilation (NIV) or intubation. If the paO_2/FiO_2 improve after short periods of proning, both NIV and intubation could be avoided, which are considered aerosol generating procedures (AGP) and decrease the associated risk for healthcare teams.

Aim:

The aim is to assess the feasibility and impact of prone positioning for respiratory support as part of ED management in hypoxic non-ventilated suspected or confirmed COVID-19 patients.

Methods:

This is an ongoing prospective observational mixed methodology study looking at awake proning in COVID-19 patients. Adult non pregnant patients (> 18yr) with xyz symptoms are eligible for the study. Given that there is XYZ guidance for proning, their care falls into routine clinical practice and only routinely collected data is being used, no further ethical permission has been sought.

Patients presenting with low oxygen saturations (89-95%) receiving supplemental oxygen will receive an arterial blood gas (ABG) on arrival to the ED. Demographics, pre and post-routine clinical observational data including oxygen saturations, and ABGs will be collected at 1 hr and the patient admitted from the ED as per routine local clinical practice. Follow up outcome data of these patients will also be collected at 7days, 14days and discharge from hospital. The data will be analysed by the study statistician and research team.

Further, we intend to conduct a survey and semi structured interviews of clinicians involved in proning patients in the ED to evaluate the feasibility of proning these patients.

Data Collection: data is being collected in an anonymised secure log. A survey will be sent out at regular intervals to capture as many staff as possible. Interviews will be recorded, animated and then transcribed and evaluated using thematic analysis.

Results: We anticipate to have a case series to present in the next few months which will describe the outcomes of patients who have been proned in the ED. Feasibility data will be described by triangulating the survey results and interviews descriptive form on analysing soon as study is currently ongoing.

Conclusions: Evidence from studies from intensive care units (ICU) around the world have demonstrated that proning is beneficial for the long-

term outcome in patients on mechanical ventilation. If we can implement awake proning in a suitable cohort of hypoxic patients within the ED, then we could potentially change the course of the patient journey within the hospital. This may be of importance in hospitals without extensive ICU care or NIV machines & in low resource settings.

Key words: Awake proning, Emergency department, COVID-19, pneumonitis, ARDS, respiratory failure, hypoxia, NIV, ICU, ABC

Trial Registration / Funding Information (only) :

N/A

#23532 : Effectiveness of the modified Valsalva maneuver in the emergency management of supraventricular tachycardia

Authors:

Insaf Dlala (1), Nahla Jerbi (1), Samia Betout (1), Asma Khalfallah (1), Fatma Ben Salem (1), Khouloud Mefteh (1), Khalil Hamrouni (1), Amira Sghaier (1), Soudani Marghli (1)

1. Emergency department, Tahar Sfar Hospital, Mahdia, Tunisia

Keywords: supraventricular tachycardia - modified Valsalva maneuver - standard Valsalva maneuver - emergency department

Abstract :**Introduction:**

The classic Valsalva maneuver can reduce supraventricular tachycardia (SVT) by 5–10%. Recently, a modification of this maneuver (modified Valsalva) has been proposed to improve its effectiveness. The study aimed to evaluate the effectiveness of the modified Valsalva maneuver in terminating SVT in the emergency department.

Methods:

Type of study: Randomized Controlled Trial

Inclusion criteria: Any patient aged older than 18 years presenting to the ED with SVT

Protocol: Patients were randomized between standard Valsalva maneuver (control) and modified Valsalva maneuver (intervention). Randomization was performed independently, using opaque, serially numbered envelopes.

Outcomes: the primary outcome was return to sinus rhythm on a 12-lead ECG. Secondary outcome includes the need for antiarrhythmic therapy.

Results:

31 patients were included: 12 patients (39%) in the control group and 19 patients (61%) in the intervention group. The mean age was 56 years (18 to 81 years), the sex ratio (M/F) was 0,9.

Ten patients (52.6%) in the modified VM group and 4 patients (33.3%) in the control group returned to sinus rhythm after the procedure ($p = 0.29$).

The number of patients requiring anti-arrhythmic therapy was 8 (42%) in the modified VM group versus 6 (50%) in the standard VM group ($p = 0.66$).

Conclusion:

This work did not show a superiority of the modified Valsalva maneuver over the standard Valsalva. These results are only intermediate data from a study that is still ongoing.

#23534 : Acute type B aortic dissection: an unlikely diagnosis in the systemically well patient.

Authors:

Aimee Thompson (1)

1. Emergency Department, Queen Elizabeth University Hospital, Glasgow, United Kingdom

Keywords: Aortic dissection, CT scan

CT scans

Patient images are involved and I have adequate permission to use them

Abstract :

Brief Clinical Details

Sixty-nine year old fit and well male presented with sudden-onset dull central chest pain while doing press-ups (a usual daily routine). The pain initially originated between the scapulae, leading the patient to think this was a muscular pain associated with exercise. Patient was haemodynamically stable on arrival with equal blood pressures and radial pulses bilaterally. ECG showed global ischaemia. The decision was made to CT to rule out aortic dissection prior to anticoagulation and transfer to PCI centre.

Description of Relevant Abnormalities

Type B acute aortic dissection, terminating in the internal and external iliac arteries bilaterally. Femoral arteries are patent and spared from dissection. The false lumen supplies an accessory left renal artery and the IMA. Suspicion of developing areas of infarction within the left kidney. Coeliac axis and SMA show involvement but both are patent and supplied predominantly by the true lumen.

Why is this clinically or educationally relevant?

This diagnosis was surprising in a patient without any significant co-morbidity, who was fairly well on presentation. Although the patient did not describe typical 'tearing' intrascapular pain, this case highlights the importance of history taking as the site and onset of the pain was the only justification for the scan.

Images awaited.

Attachment: Acute type B aortic dissection: an unlikely diagnosis in the systemically well patient..pdf

#23536 : A retrospective descriptive cohort study of drowning victims in two hospitals near the Dutch coast**Authors:**

Evelien Van Der Vinne (1), R. Barendse (2), L. Scholtens (3), I.T.B. Berg (4), B.G.F. Verweij (3), H.E. Elsenga (5), J.J. Bierens (6)

1. Emergency Department, Haga Hospital, The Hague, The Netherlands
2. Resident Emergency Medicine, Haaglanden Medical Center The Hague, The Hague, The Netherlands
3. Emergency Department, Haga Hospital, The Hague, The Netherlands
4. Emergency Department, Haaglanden Medical Center The Hague, The Hague, The Netherlands
5. Emergency Department, Reinier de Graaf hospital, Delft, The Hague, The Netherlands
6. Research Group on Emergency and Disaster Medicine, Medical School of the Vrije Universiteit Brussel (ReGEDiM Brussel), Research Group on Emergency and Disaster Medicine, Brussel, Belgium

Keywords: Drowning, drowning victims

Abstract :

Title: A retrospective descriptive cohort study of drowning victims in two hospitals near the Dutch coast

Authors:

E. van der Vinne¹, R. Barendse², L. Scholtens¹, I.T.B. Berg², B.G.F. Verweij¹, H.E. Elsenga³, J.J. Bierens⁴

Affiliations:

1. Haga Hospital, The Hague, The Netherlands
2. Haaglanden Medical Center (HMC), The Hague, The Netherlands
3. Reinier de Graaf hospital (RdGG), Delft, The Netherlands
4. Research Group on Emergency and Disaster Medicine, Medical School of the Vrije Universiteit Brussel (ReGEDiM Brussel), Belgium

Introduction

Few studies have focused on the clinical course and management of non-fatal drowning patients presenting to the emergency department (ED). The aim of this study is to describe the clinical characteristics of drowning patients presenting to the ED of two coastal hospitals of The Hague. The primary outcome of our study was the number of patients presenting to the ED's and their clinical characteristics. Secondary outcomes were patient mortality, morbidity, ED and in hospital management, time of observation at the ED (in hours) and time to discharge from the hospital (in days).

Methods All consecutive files of patients admitted between 1-1-2014 to 31-12-2019 to the Emergency Department (ED) of 2 hospitals in The Hague (a coastal city) with a drowning related International Classification of Disease-10 (ICD10) code were studied. Data included patient characteristics, vital signs, blood gas analysis, radiographic findings, hospital admission or discharge from the ED, complications, and mortality.

Results

In the Haga Hospital 42 drowning patients (60% male; average age 9.5 years) presented to the ED. Of these 19 (51%) were younger than 4 year of age and 37 (88%) younger than 18 years. On ED presentation thirty-two patients (76%; average age 7.8 year) were asymptomatic, with normal lung sounds, no altered mental status and a pulse oximetry >95% without oxygen support. Twenty-three (72%) of these patients were discharged from the ED within ten hours. Patients who were admitted for observation to the general ward showed no adverse events or deterioration and were safely discharged the next day. Two persons were admitted to the ICU and survived hospital discharge.

The detailed patient characteristics and results of the HMC will be presented during the conference. In case we can resubmit the abstract with all data, this would be very much appreciated.

Conclusion

Drowning patients presenting to the ED in The Hague are predominantly children. Most patients are asymptomatic and discharged directly from the ED. All patients that were admitted for observation were discharged the next day.

Trial Registration / Funding Information (only) :

Trail registration: This study does not fall under the scope of the medical research involving human subjects act (WMO) and thereby was not accredited by a medical ethical committee. The study is not registered because there are no patients involved. Funding: This study did not receive any specific funding Ethical approval and informed consent: Not needed

#23537 : Fatal intake of paracetamol

Authors:

Ikhlas Ben Aicha (1), Amira Sghaier (1), Nawel Farhat (1), Kebaier Sarra (1), Achref Belkacem (1), Amel Marsit (1), Bouhlel Ahmed Maktouf (1), Nahla Jerbi (1), Marghli Soudani (2)

1. Emergency department, Tahar Sfar Hospital, Mahdia, Tunisia
2. Emergency medical department, Tahar Sfar Hospital, Mahdia, Tunisia

Keywords: paracetamol - acute liver failure - shock - fatal outcome - autopsy

Abstract :

A 32-year-old patient with recent high blood pressure without treatment and occasional alcohol consumption and smoking (5 pack-years) presented to the local emergency department 8 hours after taking 1 g of acetylsalicylic acid and 1 g of paracetamol for fever and acute asthenia. His mother reported a significant vomiting and asthenia following taking this medicine. In the morning, he became sleepy, a reason for his consultation. On arrival at the local emergency department, he was comatose with a GCS at 03/15, the pupil was intermediary and reflective, and had hypoglycemia on the finger at 0.34g per liter corrected to 1.4g per liter but without any neurological improvement. His blood pressure (BP) was 120/50 mmHg, the heart rate was 120 beats per minute; the pulse oximetry was 88% under oxygen using a high concentration mask. Immediate resuscitation of the patient was started by the emergency mobile team (SMUR). He was mechanically ventilated, received vascular fluids, and glucose serum then he was transported to our emergency department. On arrival the patient was in shock with BP 120/100 mmHg, coldness of the extremities, lengthening of the capillary refill time, digital rectal examination found melena. The ECG was without abnormalities. The patient was put on norepinephrine in a progressive dose and large antibiotic spectrum therapy. The immediate evolution was fatal with the patient's death at the second Hour (H2) on arrival in the emergency room and at the twelfth hour (H12) at the onset of symptoms. Biology upon arrival revealed severe lactic acidosis (lactates 14.4 mmol per liter, pH 6.8, HCO₃⁻ no detectable), prothrombin ratio <10%, platelet count 27000 per cubic millimeter, creatinine 244 μmol per liter, anemia with Hb 11.9 g per deciliter, white blood cells 16960 per cubic millimeter, CRP 7.6 mg per liter, PaO₂ 65 mmHg (under FiO₂ : 100%). The autopsy revealed a macroscopically micronodular liver with chronic cirrhotic liver disease, signs of portal hypertension and splenomegaly. This case illustrates the severity of the administration of paracetamol on a pathological liver.

#23538 : Are we using NICE guidelines appropriately for CT head of Head Injury patients?

Authors:

Badrun Shurovi (1), Nadeem Nayeem (2), Gautam Prajapati (1)

1. , University Hospital Lewisham, LONDON, United Kingdom

2. , University Hospital Lewisham, London, United Kingdom

Abstract :**Background**

CT head/Neuroimaging formulates one of the key investigations to guide the diagnosis, management and prognosis of head injuries. Head injury is the commonest cause of death and disability in people aged 1-40 years in the United Kingdom. This study evaluated whether we were appropriately using NICE Guidelines to assess head injury patients by performing CT head.

Methods

A single centre retrospective study was carried out looking at patients attending the Emergency Department in August 2019 with suspected head injury.

102 patients were identified using iCare and data collection was completed using FirstNet and PACs.

Results

Total of 102 patients fit the criteria out of which 40 patients had CT head. 20 out of 40 patients fit the criteria for CT head as per NICE guidelines. Mean time to be triaged in ED was approximately 25 minutes. Mean time to be seen after triage was approximately 2 hours. CT head performed within 1 hour of request was 36% and CT head performed within 1 hour of triage was 7%. CT head reported within 1 hour was 75%.

Discussion and Conclusion

This retrospective study showed that doctors and nurses are not compliant with the NICE guidelines as 50% of CT head were done when it was not warranted. CT head was not being performed within the 1st hour of head injury presentation: delay of approximately 2-hour 20minutes between triage and assessment by a medical practitioner. 75% of data suggest CT head was being reported within 1 hour, which is compliant with NICE guidelines. Moreover, it was impossible to say whether some of the risk factors such as seizures, loss of consciousness or amnesia was not assessed or merely not documented. This data suggested that an intervention is required to improve the documentation process and compliance of doctors and nurses in order to improve the delays between triage, assessment and performing CT head. Furthermore, by reducing the unwarranted CT heads performed the emergency department can save money and patients can be spared from unnecessary exposure to radiation. Hence, we are implementing two quality improvements projects in order to address the above issues and then re-audit.

#23539 : Plasma lactate as a biomarker of hemodynamic instability in normotensive acute pulmonary embolism – a retrospective multicentre study**Authors:**

Catarina Lameiras (1), Ana Carolina Monteiro (1), Marta Mendes Lopes (1), Marta Rocha (1), Martim Trovão Bastos (1), Maria do Céu Dória (1), Carlos Meneses-Oliveira (2)

1. Internal Medicine, Hospital Prof. Doutor Fernando Fonseca, Amadora, Portugal
2. Intensive Care Unit, Hospital Beatriz Ângelo, Loures, Portugal

Keywords: Pulmonary embolism, plasma lactate, prognosis

Abstract :

Background: Pulmonary embolism (PE) is the third leading cause of death due to cardiovascular disease. The presence of hypotension is the main clinical parameter which gives indication for prompt recanalization treatment. However, most of the patients are normotensive at admission and current risk-stratification biomarkers of normotensive PE have an insufficient positive predictive value. Plasma lactate concentration is a marker of the severity of tissue hypoxia which might be increased before overt hemodynamic instability. Only very recently blood lactate has been included at PE management guidelines. However, it was not included at the risk-stratification and treatment decision algorithms and no timing is defined for its assessment.

Objectives: This study aimed to investigate plasma lactate as a marker of haemodynamic compromise in normotensive PE. Specific objectives included: 1) validation of plasma lactate association with PE-related complications in the Portuguese population; 2) evaluation of the time course of plasma lactate during the first 24 hours in patients with PE and its time relation with progression to hypotension, to create an optimized model of tests' timing; 3) comparison of lactate levels with the current risk-stratification biomarkers: troponin (Tn) and NT-terminal proBrain Natriuretic Peptide (NT-proBNP).

Methods: We conducted a retrospective multicentre review of the patients admitted in two secondary-care hospitals for acute PE confirmed by imaging techniques along 2 years (from January 2017 to December 2018). Exclusion criteria included absence of lactate levels test within 6 hours from admission, presentation as cardiorespiratory arrest and concomitant causes for acute lactate increase, such as sepsis or hypovolemia. PE-related complications were defined as evolution to hypotension (systolic blood pressure < 90 mmHg), shock, cardiorespiratory arrest or need for invasive mechanical ventilation.

Results: A total of 234 patients were diagnosed with PE. Of these patients, 211 were normotensive at presentation and included in this analysis. Mean age was 68.7 ± 15.9 years, 33.6% were male. PE-related complications occurred in 27.4% and all-cause in-hospital mortality was 12.7%. Plasma lactate concentration was elevated (≥ 2 mmol/L) at admission in 46.0% of normotensive patients. The majority of these (56.9%) presented PE-related complications, with hypotension occurring within 12 ± 7 hours. PE-related complications occurred in 64.2% of the patients with plasma lactate levels ≥ 2.2 mmol/L at admission and in 94.4% of the patients with plasma lactate levels ≥ 1.9 mmol/L evaluated between the 1st and 6th hour after admission. Mean lactate concentrations showed the highest value at admission, while Tn and Nt-proBNP peaked between the 7th and 12th hour.

Conclusions: Persistently high levels of plasma lactate in the first 6 hours from admission were associated with high risk of PE-related complications in normotensive PE. Plasma lactate concentration may be easily and quickly accessed in the initial work-up of acute PE at the emergency department. Therefore, its determination at admission and on the first 6 hours after might improve early prognostication of these patients.

Trial Registration / Funding Information (only) :

Not applied.

#23541 : Pre-hospital high sensitivity troponin in the evaluation of patients with suspected acute coronary syndrome**Authors:**

Jamie Cooper (1), James Ferguson (1), Lorna Donaldson (2), Kim Black (1), Kate Livock (3), Judith Horrill (1), Elaine Davidson (4), Neil Scott (5), Amanda Lee (5), Takeshi Fujisawa (6), Kuan Ken Lee (6), Atul Annand (6), Anoop Shah (6), Nicholas Mills (6)

1. Emergency Department, Aberdeen Royal Infirmary, NHS Grampian, Aberdeen, United Kingdom
2. Scottish Ambulance Service, NHS Grampian, Aberdeen, United Kingdom
3. Programme Manager in Unscheduled Care, NHS Grampian, Aberdeen, United Kingdom
4. Clinical Biochemistry Department, NHS Grampian, Aberdeen, United Kingdom
5. Department of Medical Statistics, University of Aberdeen, Aberdeen, United Kingdom
6. BHF Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom

Keywords: Chest pain, risk score, high sensitivity troponin, myocardial infarction

Abstract :**Background**

High sensitivity cardiac troponin assays allow the accurate measurement of levels of troponin well below the 99th percentile upper reference limit used for the diagnosis of myocardial infarction. The reliable detection of troponin at very low cut-offs by these tests has revolutionised the rapidity with which the diagnosis myocardial infarction can be safely excluded in substantial proportions of patients presenting to the Emergency Department. If such strategies could be utilised by paramedics in the pre-hospital environment could similar benefits be realised and patients identified who could be managed without transfer to hospital?

Methods

Prospective cohort study in Northeast Scotland (UK) of adult patients (≥ 18 years) with chest pain suspicious of an acute coronary syndrome and a non-diagnostic electrocardiogram. Strategies of a paramedic interpreted 'non-ischaemic' electrocardiogram and the detection of troponin at concentrations of $< 5\text{ng/L}$ and $< 2\text{ng/L}$ (measured with the Abbott ARCHITECT_{STAT} high sensitivity troponin I test) were compared with a paramedic derived modified HEART score ≤ 3 (with the troponin component scored as 0 if below the limit of detection, 1 between the limit of detection and the sex-specific upper reference limit, and 2 if above this threshold). The primary endpoint was the development of myocardial infarction (type 1, 4b or 4c) or cardiac death at 30 days

Results

Of 966 patients (mean age 64 years, and 42% women), 183 (19%) fulfilled the primary outcome. A non-ischaemic electrocardiogram with troponin I value $< 5\text{ng/L}$ identified 508 (53%) patients with sensitivity 90% and NPV 97% and with troponin I value $< 2\text{ng/L}$ identified 273 (28%) patients with sensitivity 97% and NPV 98%. A modified HEART ≤ 3 identified 194 (20%) with sensitivity 97% and NPV 97%. Subgroup analysis showed improved performance in those 476 patients (49%) presenting > 3 hours after index chest pain but not significantly so.

Conclusions

Pre-hospital strategies to rule out myocardial infarction using very low cut-offs of cardiac troponin measured with a high sensitivity assay do not currently reach the required performance parameters to safely rule out myocardial infarction in the pre-hospital environment.

Trial Registration / Funding Information (only) :

This study was approved by the National Ethics Committee (REC ref: 14/NS/1037), registered in the Research Registry (UIN 2671) www.researchregistry.com, and was conducted with the written informed consent of all participants in accordance with the Declaration of Helsinki. FUNDING AND DECLARATIONS The study was funded by the Digital Health & Care Institute (DHI), Scotland and by the NHS Grampian Endowment Fund. Samsung provided the point of care devices and test discs. The funders had no role in study design, data collection, or interpretation, or the writing of the report.

#23542 : Double Trouble

Authors:

Ndoma-Egba Basse (1)

1. , Health Service Executive, DROGHEDA, Ireland

Keywords: Shoulder dislocation, trauma**Abstract :**

We present a case report of bilateral anterior dislocations in the absence of trauma and no previous history of shoulder dislocations.

Case:

A 36 year old lady presented to the emergency department with acute onset of bilateral shoulder pain when she was setting down dumbbells in the gym. The weights were light and she was not actively executing a manoeuvre. She had no previous history of shoulder dislocations and no medical history of note. On arrival to the department, she was in severe discomfort with bilateral shoulder pain and flattening of the contours of the shoulders. She was neurovascularly intact and was diagnosed with bilateral anterior glenohumeral dislocations. This was confirmed by standard x-rays of the shoulders.

She then underwent closed reduction under sedation using the Kocher's method, and reduction confirmed on check x-rays. Post reduction examination was normal and she was placed in bilateral polyslings and followed up in the fracture clinic. She made an uneventful recovery.

Discussion:

Shoulder dislocations are one of the most common presentations to the emergency department. The majority are unilateral and anterior, with a small percentage posterior and very few inferior. Bilateral shoulder dislocations - with or without fractures are rare. Simultaneous dislocations in the absence of trauma or history of previous dislocations are even rarer. They occur most commonly during epileptic convulsions, nocturnal hypoglycaemia, electrocution and trauma.

In our case, the patient had no risk factor for the presentation and provides an important learning opportunity. The literature suggests that up to 10% of these are missed and as such it is important to recognise, reduce and immobilise these dislocations to prevent adverse outcomes.

Authors:

Zeyen Seah (1), Pak Liang Goh (1)

1. Emergency Department, Changi General Hospital, Singapore, Singapore

Keywords: Pneumothorax

Abstract :

Simultaneous Bilateral Spontaneous Pneumothorax: A case report

Authors: Seah Zeyen, Goh Pak Liang

Introduction: Spontaneous pneumothorax is a common clinical condition in the emergency setting, where the presentation can vary from mild dyspnea to severe respiratory distress and cardiopulmonary arrest. 1.3% of all spontaneous pneumothoraces occur bilaterally simultaneously. Here we present a rare case of simultaneous bilateral spontaneous pneumothorax who eventually underwent video-assisted thoracoscopic surgery (VATS) with pleurodesis.

Case report: A 14-year old healthy teenager presented with acute shortness of breath and central chest pain. He self-presented to the ED. There was no history of trauma, fever or upper respiratory symptoms. He was never a smoker. Of note, he has a height of 172cm and an arm: height ratio of 1. There was no high arched palate and he did not have any joint laxity.

On arrival, he was tachypneic with a respiratory rate of 36 per minute, BP 128/69, HR of 119, saturating at 96% on room air. Air entry was reduced on the right side, and absent on the left side, as well as hyperresonance on percussion of the left lung. There were no heart murmurs. Bedside ultrasound performed showed no lung sliding bilaterally. There was also no aortic root dilatation. Chest X-ray (CXR) revealed bilateral pneumothorax (left larger than the right), with no associated hemothorax.

Bilateral Wayne pigtail catheters were inserted in the ED. Repeat CXR showed interval reduction in bilateral pneumothoraces with reexpansion of both lungs, and patient reported improvement in symptoms, after which he was admitted.

CXR the following day showed increase in size of the left pneumothorax. Despite subjecting both catheters to negative pressure suctioning and increasing oxygen supplementation, there was no resolution of bilateral pneumothoraces. He was transferred to another institution with cardiothoracic services on day 3 of admission where he underwent bilateral VATS bullectomy and mechanical pleurodesis. Both chest tubes were removed on post-operation day 3. There was no recurrence of pneumothoraces on repeat CXR and he was discharged well.

Discussion: Primary spontaneous pneumothorax frequently affects young, tall, thin males. They have a lower BMI and pose a higher risk of bilateral bleb/bullae formation, which are usually found on CT or during thoracoscopy or thoracotomy. Although spontaneous pneumothorax is a relatively common clinical scenario, bilateral primary spontaneous pneumothorax is very rare. Chest drainage is the basis of initial treatment, where one side should always be drained regardless of the extent of pneumothorax, whereas the other side can be managed by simple observation depending on the extent of the air in the pleura space.

Our patient had decreased cardiac silhouette and no mediastinal shift on his CXR, radiologically suggestive of bilateral tension pneumothorax. Generally, cases of bilateral pneumothorax require definitive surgery

therapy to reduce the recurrence rate. This can be done either through VATS or open thoracotomy followed by mechanical pleurodesis.

Conclusion: Simultaneous bilateral spontaneous pneumothorax requires urgent assessment and management. In a young patient without any underlying disease, surgical intervention such as VATS can be considered early.

Attachment: IMG_4854.jpg

#23546 : 'Handover to the NEWBIES on shift': Improving patient handover at shift changeover in the emergency department

Authors:

Aimee Thompson (1), Louise Clark (1), Claire McGroarty (1)

1. Emergency Department, Queen Elizabeth University Hospital, Glasgow, United Kingdom

Keywords: Patient safety, handover

Abstract :**Background**

Sufficient and optimal patient handover has been widely documented as a key factor in ensuring continuity and safety of care. This is amplified in the setting of the emergency department, where patient numbers, turnover of staff, and clinical acuity reach heights much greater than that of other clinical areas. Analysis of case studies and reflections arising from patient safety issues in the Queen Elizabeth University Hospital Emergency Department suggested that suboptimal patient handover was at least in part at fault.

Methods

A seven-question survey was circulated via email to all medical staff in the Queen Elizabeth University Hospital Emergency Department. Results were analysed, and conclusions were fed back to medical staff at a departmental education meeting.

Results/Discussion

20 responses were collected from medical staff of varying grades. Around one third felt that handover at change of shift was insufficient and unsafe. The majority of respondents had either personally experienced or heard of patient safety issues arising as a result of suboptimal handover (65% and 85% respectively). 85% of respondents felt that handover could be improved.

Conclusion

Initial data collection suggests the need for improvement in the approach to patient handover in the department. We came up with an acronym (NEWBIES - see details below) which we feel is more comprehensive than previous similar methods, and will ensure emergency department-specific details are not excluded from verbal handovers. Initial implementation of NEWBIES has begun via education and awareness. We hope to integrate this method into a combined medical/nursing electronic handover, visible to all staff caring for each patient. It is projected that this standardised approach will not only see a reduction in error and patient safety issues, but will also improve confidence of the multi-disciplinary team caring for the patient, and increase efficiency of all staff in the department

NEWBIES:

N - Need to know

E - Exit plan

W - What's left to do?

B - Bloods

I - Imaging

E - ECG

S - Say hello, introduce yourself to the patient.

#23547 : Minimising cognitive load and improving infection control in the resuscitation area during Covid-19

Authors:

Christina Mackaill (1), Jacqueline Templeton (1), Kevin Thomson (1), Kathryn Annandale (1), Claire McGroarty (1), Alan Whitelaw (1), Nicola Littlewood (1)

1. Emergency Department, Queen Elizabeth University Hospital, 1345 Govan Road, Glasgow, G51 4TF, United Kingdom

Keywords: Central line, Arterial line, Catheter, Covid-19, Cognitive load, Resuscitation

Abstract :

Background

With Covid-19, came a new set of considerations for Emergency Departments. Where once we had multiple trolleys with equipment in open drawers for central lines, arterial lines and catheters, these proved difficult to keep clean in the contaminated resuscitation room. Level 3 PPE was not only unfamiliar, hot, claustrophobic and uncomfortable, but meant that staff could no longer leave the area to restock easily. With these heightened environmental pressures impacting on cognitive load coupled with a need for efficiency during a busy resuscitation room shift and a variation in skill mix, suboptimal set-up of these procedures may occur. This may also result in higher stress levels for all involved and subsequently impact on patient care. We know that human factors play a vital role in patient safety and it is important that we do all we can to mitigate them. We hypothesised that the use of pre-made bags for certain procedures may do exactly that.

Methods

We used quality improvement methodology to analyse the problem within a multidisciplinary group and feedback was gathered using anonymous surveys. The project was started in December 2019 and was accelerated during Covid-19 as the need became more apparent and pressing. Taking place in a large Emergency Department in Glasgow seeing 110,00 patients per annum, participants had to have set up for these procedures previously in order to give feedback on using the pre-made bags.

Multiple central line, arterial line and catheter bags were prepared using a checklist including every item required to set up for the procedure. These bags, cable tied closed to indicate complete kit, were stored in an accessible cupboard in the resuscitation area of the Emergency Department, and replaced previous trolleys and drawers containing individual items needed.

After 3 weeks of the bags being in use, anonymous surveys were distributed amongst members of staff with questions looking at the effect of the pre-made bags on ease of set-up, stress levels, confidence, timing and overall satisfaction compared with the previous set-up. Participants were also given the opportunity to give anecdotal comments or areas for improvement.

Results

70 surveys were completed from members of nursing and medical staff. Overwhelmingly positive, participants noted ease of set-up especially when in PPE, with a reduction in cognitive load and thereby stress. There was improved accuracy and restocking had become simpler too. In particular, nurses who were newly qualified and had less experience of setting up for these procedures found the bags meant they were less likely to forget items. Infection control was improved by everything being in a sealed bag rather than the multiple fomites that the previous trolleys presented.

Discussion & Conclusions

Use of pre-made bags for procedures in the resuscitation room reduces cognitive load during set-up and allows easy standardisation during what can be a stressful time. This has become particularly apparent during Covid-19. We think these could be useful in other unprecedented situations such as major incidents and multiple traumas, when time and accuracy is a crucial factor in administering life-saving treatment.

Trial Registration / Funding Information (only) :

No patients were involved in this study therefore it was not registered. This study did not receive any specific funding.

#23550 : Coronavirus outbreak: Does Emergency Medicine have a role?

Authors:

Vincenzo G Menditto (1)

1. Emergency Department, Ospedali Riuniti di Ancona, Ancona, Italy

Keywords: COVID19, Emergency Medicine, Research

Abstract :

On 24th April I performed a survey of the literature searching papers about Coronavirus' infection or COVID19 from 2020/01/01 to date using PubMed. Restricting the research to the core clinical journals, I found 1009 out of 14367 papers (7%). Restricting the research to the 43 emergency journals currently indexed in MEDLINE I found 80 out of 1264 papers (6%). 37 papers published in emergency journals were from America, 21 from Europe, 17 from Asia and 5 from Australia. Moreover, among these 80 papers, 16 (20%) were published in the same journal (American Journal of Emergency Medicine), 11 in the Western Journal of Emergency Medicine, 8 in Academic Emergency Medicine and 5 in Prehospital and Disaster Medicine, that account for 50% of all the published manuscripts in the emergency journals. Just two papers were published before 1st March 2020. Moreover, from 1st March to 30th March, after the beginning and also the end of the dramatic outbreak in China, only 16 papers out of 80 (20%) of the total papers published in emergency journals till now, have been published, whilst 5229 papers (81%) of the total papers published in all the journals till now, have been published in the same period (figure). Half of the papers published in emergency journals are "letters to the Editor", Only 8 articles are consensus statement or review or guideline and only 4 articles analyze the therapy of COVID19.

The reason of all these findings could be different: 1. the intensivists were definitely "hit" by a unexpected and violent wave consisting of a lot of patients, many of whom serious and challenging, who have overcrowded the A&Es and than all the hospitals, so they could had less time to collect the data and to write papers; 2. the authors could choose the journals to which they would send their papers and probably they preferred journals with higher impact factors since emergency journals were usually published once a month and have lower impact factors (just Annals of Emergency Medicine is part of core journals). In conclusion, future research is necessary to expand our collective knowledge of COVID-19 and optimize patient and healthcare workers' outcomes.

Trial Registration / Funding Information (only) :

None

#23551 : Medicine in the time of Coronavirus Outbreak

Authors:

Vincenzo G Menditto (1)

1. Emergency Department, Ospedali Riuniti di Ancona, Ancona, Italy

Keywords: Coronavirus Outbreak, History, Perspectives

Abstract :

Alessandro Manzoni puts an end to the plague with a liberating rainstorm (1).

I'm Italian. I'm a doctor. I'm an Italian doctor. This means that a lot of people have seen me as a potential risk for SARS-Cov19. This is hard to say but, especially during the very first phase of this pandemic in Italy, I felt like an untore (*anointer*).

During the plague in Milan in 1630, the term *anointer* was used to refer to people who were suspected of propagating contagion through the contamination of people and objects with poisonous ointments. In Italy, there is a long tradition of epidemics, and the relationship between society, contagion and anointers has remained strong, mysterious and unresolved throughout the centuries. Manzoni's "History of the Column of Infamy" recounts the quest to find Patient Zero *ante litteram*; Gian Giacomo Mora, a barber (and therefore, in those days, also a surgeon) is sentenced to death following his conviction for being an anointer, and the said *column of infamy* is erected on the site of his death for posterity.

In 2015, on the day he was discharged from the Spallanzani Hospital, Dr. Fabrizio Pulvirenti, a volunteer doctor infected with Ebola whilst working for the NGO *Emergency*, stated "I don't think I'm a *hero*, but I know I'm definitely not an *anointer*; I'm just a soldier who was injured in the battle against a ruthless enemy". I am writing this because I am afraid that what happened to me, but not only to me, will also happen to you. I am afraid you will also feel this anointer/hero duality. Keep your head high when you experience the former so as to better appreciate the latter. During this particularly arid winter in Italy, there was an initial phase where I was sometimes forbidden from entering shops or doing sport as I was considered potentially contagious. However, in the space of a few days, a soar in the number of cases, deaths and positive swab tests among health workers as well as the dramatically increasing workload in hospitals, led to a change in collective consciousness. The first few text messages of encouragement started to arrive and gradually became more and more numerous, together with donations from various associations and companies in favour of my department. At noon on 14th March, there was a nationwide flash mob in which everyone applauded doctors and nurses. On 25th March, the *Still I Rise* association requested health workers be awarded the 2020 Nobel Peace prize.

We Italian doctors, mindful of our whole history, are in a lock between our personal fears, for our loved ones as well as our patients, and exhaustion. We are anxiety-ridden about the shortage of masks and ventilators and, between a series of decree laws and hospital directives, await the rainstorm because, after all, it can't *not*-rain all the time.

Trial Registration / Funding Information (only) :

None

#23553 : "Ice cream cone sign" as an ECG finding in cases of hyperkalemia

Authors:

Steffen Grautoff (1), Lars Holtz (2)

1. Emergency Department, Klinikum Herford, Herford, Germany

2. EMS, Kreis Herford - Sicherheit und Ordnung, Gefahrenabwehr, RW Vlotho, Am Bullerbach 3, 32602 Vlotho, Herford, Germany

Keywords: ECG, hyperkalemia, renal insufficiency

ECGs

Patient images are not involved

Abstract :**Submission title:**

"Ice cream cone sign" as an ECG finding in a case of hyperkalemia

Nature of the image: ECG

Brief clinical details:

An elderly woman was admitted to the emergency department by EMS. She had complained of fatigue and dizziness. Preclinically she suddenly became unconscious and because of a bradycardia there was need to perform transcutaneous pacing. She ultimately was diagnosed with severe hyperkalemia in the emergency department. The preclinically recorded ECG revealed a recognizable pattern.

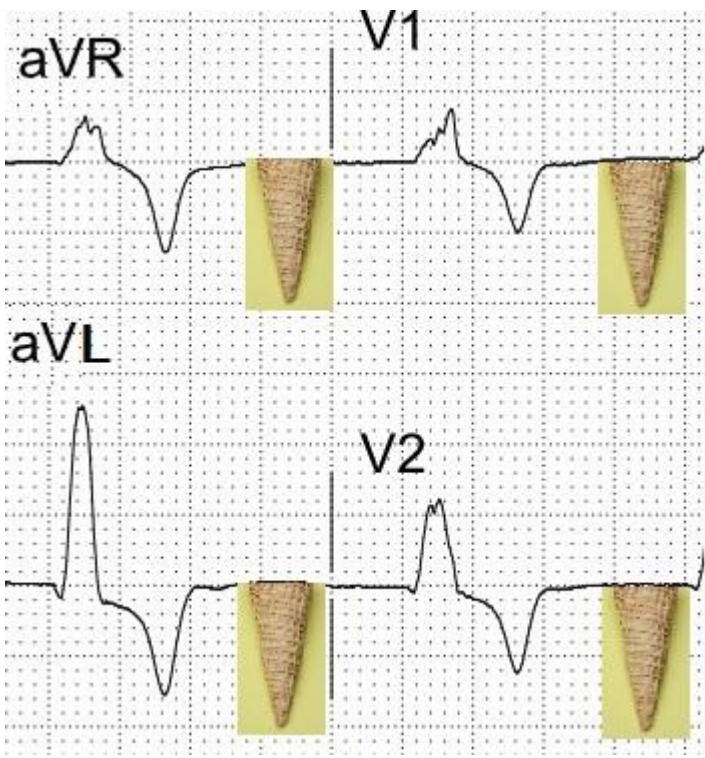
Description of the relevant abnormalities:

In this ECG the feature of T wave abnormality can be identified. Voltage of the T wave can increase if this electrolyte imbalance is present. There are negative T waves present in four different leads. The shape of the negative T waves is similar to an ice cream cone.

Why this image is clinically or educationally relevant?

Good pattern recognition is essential for providers who are scrutinizing ECGs of acutely ill patients. Patients with hyperkalemia might present with non-specific symptoms such as dizziness or malaise.

The "ice cream cone sign" can help visualizing and therefore recognizing the peaked negative T waves in cases of hyperkalemia. Hyperkalemia can be suspected before receiving laboratory results and necessary treatment can be initiated instantly.



#23557 : The importance of a good differential diagnosis

Authors:

Natalia Valencia Gonzalez (1), Miriam Uzuriaga Martin (2), Jose Mora Alcalá (1), Cristina Barreiro Martinez (3), Jordi Arnau Marsá Domingo (2), Vanesa Isaac (4), Santiago Blanco Rey (5), Mario Garcia Aroca (6)

1. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
2. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
3. emergency care, summa 112, Madrid, Spain
4. emergency care, SUMMA 112, Madrid, Spain
5. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain
6. Servicio Murciano de Salud, Servicio Murciano de Salud, Murcia, Spain

Keywords: #Arrhythmias #Ictus #Differential diagnosis

Abstract :

We are informed of SUMMA 112 by men of 60 years due to low level of consciousness in a Madrid casino. On our arrival, patient in supine decubitus, and they are performing CPR maneuvers due to unconsciousness and that he has no pulse. We do not know the patient's personal history. The only thing that is known a priori is that the patient has suddenly collapsed in the middle of the roulette wheel, without previously showing any discomfort or clinical symptoms. Upon our arrival unconscious patient and breathe. At first glance, a decrease in tone is observed in the right hemibody without a radial pulse in any of the 2 extremities, but in the carotid artery, so CPR maneuvers are stopped. The patient is not impressed by consumption of toxins. We proceed to monitor the patient and objectify a blood pressure figure of 60/30 mmHG, blood glucose of 120 mg / dl, and a frequency of 35 bpm. We performed a 12-lead ECG and we observed an electrocardiogram where the p's did not lead to QRS and we observed a wide QRS, which makes us see a 3rd degree atrioventricular block.

After diagnosing 3rd degree atrioventricular block, we proceeded to place pacemakers in order to be able to increase the preload, since the patient had performed a low-cost situation in this context. As the pacemaker takes effect, the patient regains consciousness and a right hemiparesis is observed, with aphasia and deviation of the left commissure. Stroke is diagnosed and notice is given to the nursing table in order to objectify the transfer. Finally the patient is taken to the hospital, where he evolved favorably.

Hemodynamic ischemic stroke occurs when cerebral perfusion decreases critically, such that a sudden drop in blood pressure below self-regulation levels, due to cardiac arrest, prolonged syncope, shock of any origin or other Causes of severe arterial hypotension can produce a cerebral infarction of hemodynamic origin, also called "border territory, border zone or last meadow infarction". These constitute 10% of cerebral infarcts (Chaves et al; 2000).

Furthermore, it is important to say that cardiac arrhythmias are frequent in acute strokes. Telemetric cardiac monitoring is a widespread technique in stroke units. The appearance of arrhythmias in acute stroke may be related to brain-heart interactions or cardiac pathology.

Systematic evaluation of cardiac monitoring in patients with acute stroke allows detection of clinically relevant cardiac arrhythmias. Its incidence is higher during the first 48 h. The age and size of the brain injury are related to its appearance. Detection of arrhythmias in a stroke unit has fundamental therapeutic consequences.

The patient in the clinical case was reversed, his hemodynamic situation improved clinically.

It is important to carry out a comprehensive differential diagnosis in order to properly manage the patient

#23559 : Are there cases of psychotic outbreaks in children?**Authors:**

Jose Mora Alcalá (1), Miriam Uzuriaga Martín (2), Natalia Valencia Gonzalez (1), Santiago Blanco Rey (3), Cristina Barreiro Martínez (4), Vanesa Isaac (5), Jordi Arnau Marsá Domingo (2), Sara Hernandez Martínez (1)

1. SUMMA 112 Madrid, SUMMA 112 Madrid, Madrid, Spain
2. SUMMA 112, Prehospital Emergency Care, Madrid, Spain
3. Aparato Digestivo, Hospital Universitario Puerta de Hierro, Madrid, Spain
4. emergency care, summa 112, Madrid, Spain
5. emergency care, SUMMA 112, Madrid, Spain

Keywords: #Psychotic outbreaks #Early diagnostic #Out-of-hospital medicine

Abstract :

We are warned by a 14-year-old man for unconsciousness he breathes on public roads. Approximate patient weight 55 kg. Upon our arrival conscious patient breathes. They say that he was taking the preparation for the first communication in the church when he started to feel bad. Upon our arrival conscious patient with resistance to ocular opening. We proceed to introduce him to the ambulance. There he is more communicative with the healthcare team at an initial moment. He says that he has ever been to the psychologist but that he does not take medication for it. Denies consumption of toxins. Subsequently the patient begins to agitate and refers to phrases like "I notice how Satan is inside me", "you are going to die everything" "entering level 3 of evil". Attempts are made to verbally reduce the patient. This being impossible, we proceed to the pharmacological reduction. We proceeded to use 5mg of haloperidol without result, so we repeat the dose. We managed to get to the hospital where they administered chlorpromazine 25 mg. They manage to reduce the patient pharmacologically and proceed to admission. In it, an acute psychotic outbreak is diagnosed.

Psychoses, including schizophrenia, comprise an important group of psychiatric disorders characterized by hallucinations and / or delusions (psychotic symptoms) that alter perception, thoughts, affect and behavior and that can considerably alter development, relationships and the physical health of the child and adolescent. Schizophrenia is estimated to affect 1.6 -1.9 per 100,000 children and its frequency increases from the age of 14.

Psychosis and schizophrenia in children (under 12 years old) and adolescents (up to 17 years old) are important causes of disability.

They are more severe and have a worse prognosis than when they begin in adulthood, because they disrupt social and cognitive development.

Adolescents with schizophrenia are prone to a shorter life expectancy than the general population, due to suicide, cardiovascular injuries or diseases, the latter in part due to antipsychotic medications.

The late diagnosis of schizophrenia can affect the long-term evolution, so early diagnosis and treatment are essential.

In Spain, the specialty of Child and Adolescent Psychiatry has not yet been created and this implies a deficit of resources to treat this range of population. It is a big problem because there are professionals who do not have specific training and who are working with children without having that specialty, according to medical sources.

Despite this, specific hospitalization units have been created for children and adolescents with psychiatric problems, such as the Psychiatric Hospitalization Unit for Adolescents of the Puerta del Hierro Hospital in Majadahonda (Madrid), an acute care unit for stays of between one and three weeks. Acute decompensations are treated in patients between 12 and 18 years of age.

An early approach and early recognition of psychotic patients is important, especially at such an early age. Hence the importance of training in out-of-hospital medicine as a fundamental element of patient care.

#23561 : Increased S-100 B levels are associated with fractures and soft tissue injury in multiple trauma patient

Authors:

Martin Müller (1), Wolf Hautz (1), Joel Gerber (1), Joerg Schefold (2), Aristomenis Exadaktylos (1), Carmen Pfortmueller (3)

1. Department of Emergency Medicine, Inselspital, Bern University Hospital and University of Bern, Bern, Switzerland, Bern, Switzerland

2. Department of Intensive Care, Inselspital, Bern University Hospital and University of Bern, Bern, Switzerland, Bern, Switzerland

3. , , Bern, Switzerland

Keywords: S100 B, biomarker, multiple trauma, fractures, diagnosis

Abstract :

Background: S-100 B protein was identified a biomarker for traumatic brain injury, but studies suggest that extracranial injuries may also lead to increased S-100 B serum levels. In this study, we aim to quantify the impact of injury patterns on S-100 B levels in patients with suspected multiple trauma.

Methods: Patients with suspected multiple trauma treated at a Level 1 Trauma centre in Switzerland were included in this retrospective patient chart review. Extent of injuries and severity was assessed and S-100 B levels on admission measured. Potential predictors of increased S-100 B levels ($>0.2 \mu\text{g/L}$) were identified through uni- and multivariable analyses.

Results: 1,338 patients with suspected multiple trauma were included. Multivariable logistic regression showed a significant association with increased S-100 B levels in long bone fracture (OR 2.3, 95% CI: 1.3–4.1, $p=0.004$), non-long bone fracture (OR 3.0, 95% CI: 2.2–4.3, $p<0.001$), thoracic injury (OR 2.6, 95% CI: 1.6–4.2, $p<0.001$), and deep tissue injury/wounds (OR 1.9, 95% CI: 1.4–2.6, $p<0.001$). Head trauma with intracerebral bleeding was only weakly associated (OR 2.0, 95% CI 1.2 – 3.5, $p=0.01$) and head trauma without intracranial bleeding was not associated with an increased S-100 B protein level ($p=0.71$). Trauma severity was also related to increased S-100 B levels (OR per ISS: 1.1, 95% CI 1.0–1.1, $p<0.001$). S-100 B levels $<0.57 \mu\text{g/L}$ had a high diagnostic value to rule out in-hospital mortality (negative predictive value: 1.0, 95% CI: 0.98–1.00).

Conclusion: Fractures and thoracic injuries appeared as main factors associated with increased S-100 B levels. Head injury may only play a minor role in S-100 B protein elevation in multiple trauma patients. A normal S-100 B has a good negative predictive value for in-hospital mortality. S100-B levels were associated with trauma severity and might thus be of use as a prognostic marker in trauma patients.

Trial Registration / Funding Information (only) :

N/A

#23562 : Fluid Overload and Mortality in Adult Critical Care Patients- a Meta-Analysis of observational Studies and Systematic Review**Authors:**

Anna Messmer (1), Martin Müller (1), Joel Gerber (1), Joerg Schefold (1), Carmen Pfortmueller (2)

1. Department of Intensive Care, Inselspital, Bern University Hospital and University of Bern, Bern, Switzerland, Bern, Switzerland
2. , , Bern, Switzerland

Keywords: fluid therapy, fluid overload, critical illness, critical care, intensive care, mortality

Abstract :

Objective: Fluid administration in combination with critical illness–induced increased vasopermeability often results in significant fluid overload (FO) of critically ill patients. Recent research points towards a higher mortality in patients that have received large fluid amounts. We aimed to systematically review and synthesize the evidence on fluid overload and mortality in critically ill patients and performed a meta–analysis of available data from observational studies.

Data Sources: A systematic search was performed on PubMed, EmBase, and the Cochrane Library databases.

Study Selection: Eligible were all studies investigating the impact of fluid overload (FO, defined by weight gain > 5%) or positive cumulative fluid balance (CFB) on mortality in adult critical care patients. Trials in pediatric populations (age <16 years), animal studies, trials investigating pregnant women, trials evaluating non–critically ill patients, trial investigating very specific subpopulations of critically ill patients, and trials on EGDT were excluded. RCT`s were evaluated in the systematic review part of the analysis only. Assessment followed the COCHRANE/MOOSE guidelines for systematic reviews.

Data Synthesis: 31 observational and 3 randomized controlled trials including 31,076 ICU patients met the inclusion criteria. Only observational studies were included in the meta–analysis. FO and CFB were both associated with pooled mortality (assessment after 3 days of ICU stay: a RR 8.83 (95% CI 4.03–19.33), respectively aRR 2.15 (95% CI 1.51–3.07); any time point: aRR 2.79 (95%CI 1.55–5.00); respectively aRR 1.39 (95% CI 1.15–1.69). FO was associated with mortality in patients with AKI and surgical patients (aRR 2.38 (95% CI 1.75– 2.98), respectively aRR 6.17 (95%CI 4.81– 7.97)). CFB was linked to mortality in patients with sepsis, AKI, respiratory failure: aRR 1.66 (95% CI 1.39– 1.98), aRR 2.63 (95% CI 1.30– 5.30), aRR 1.19 (95% CI 1.03– 1.43). Per one liter increase in positive fluid balance, the risk of mortality increased by factor 1.19 (95% CI 1.11–1.28).

Conclusion: The presented systematic review and meta–analysis of observational studies reporting adjusted risk estimates suggest that fluid overload and positive cumulative fluid balance is associated with increased mortality in a general population and defined subgroups of critically ill patients.

Trial Registration / Funding Information (only) :

PROSPERO (No. 139957)

#23563 : Adherence to the Guidelines for CTKUB scans for Renal Colic in Portiuncula University Hospital.

Authors:

Avriel McDonnell (1), Suleiman Altayeb (1), Kiren Govender (2), Farooq Ozair (1)

1. Emergency Department; Portiuncula University Hospital; Galway, Portiuncula University Hospital, Soalta Hospital Group, Ballinasloe, Ireland
2. Consultant, Emergency Medicine, Portiuncula University Hospital, Saolta Univeristy Hospital Group, Galway, Ireland

Keywords: CT KUB, Renal Colic

Abstract :

CT KUB is the investigation of choice when investigating acute renal colic. It also falls in line with the NICE guidance for acute renal colic, British Association of Urological Surgeon (BAUS) guidelines for acute management of first presentation of suspected acute renal colic, and European Association of Urology (EAUS) guidelines on urolithiasis. MDCT is the most accurate investigation in suspected ureteric colic and a low- radiation-dose CT technique can be used in most cases patients with a high BMI might not be suitable for low dose CT KUB.

This was a retrospective study of 75 CT KUB scans conducted in Portiuncula University Hospital. These were identified and analysed over a period of four months starting from 20th of April to 20th of August 2019. Patient demographics scan request and performance time, clinical details on request and scan result were obtained from National Integrated Medical Imaging System (NIMIS) /PACS system. The study found that the detection rate of renal calculi in PUH was meeting the expected percentage 53% (44 to 64%). The performance of a CT KUB within 24 hours as per guidelines was not met. Only 86% met current guidelines. There were delay in obtaining a CT KUB after hours and weekends. A significant proportion of patients were females (42%), 69% of all females scanned were of child bearing age.

The results of this study were circulated to all ED and surgical teams in an effort to decrease the number of requests for non-indicated CT KUB. It seems that more scans were ordered with the ease of obtaining these as compared to renal ultrasound, especially in women of child bearing age. Education regarding radiation exposures and pathways of care need to be followed to ensure that access to critical tests are available after hours and on the weekends.

Authors:

Anna Gorsanova (1), Sarmite Villere (2), Aksels Roshofs (1)

1. Emergency medicine, Latvian Association of Emergency Medicine, Riga, Latvia
2. Emergency medicine, Latvian Association of Emergency Medicine, RIGA, Latvia

Keywords: first Aid, child injuries, parents knowledgeable,

Abstract :

PARENTAL AWARENESS OF CHILD INJURY PREVENTION AND FIRST AID

Anna Goršanova student Riga Medical College of the University of Latvia

Sarmīte Villere, President of Latvian Association of Emergency Medicine, physician

Aksels Roshofs Emergency medical service of Latvia , surgeon

Introduction: Child injuries are an important public health problem. According to statistical data, Latvia has high child injury rates due to unsafe environment and insufficient parental responsibility. Moreover, most often injuries occur in the usual environment – at home. First aid in the event of injury is the provision of limited assistance to the victim.

Aim of the research: To study the parental awareness of child injury prevention and first aid, as well as to observe the opinion of medical professionals on the given topic.

Research methodology: During the research , the authors sought to find out parent understanding of first aid in cases of child injuries and child trauma prevention. In addition, the authors wanted to ascertain the opinion of qualified medical staff .

In the study, a quantitative research method was chosen – survey (for parents), and the qualitative research method (for medical staff) – interview. The survey involved 142 respondents, 125 women and 17 men.

Results: The aim of the study was achieved. Results of the research show that parents are sufficiently knowledgeable about injury prevention measures, as well as quite knowledgeable about the provision of first aid for various cases of child injuries, except for choking and resuscitation.

According to the obtained data, 88% of children are injured while actively spending time, only 12% of respondents state that children have not been injured.

The most common mechanism of injuries is falls 86%. Authors believe that it would be particularly important for parents to pay attention to preventive measures related to height and the use of protective equipment while actively spending time. 62% of respondents were aware of proper wounds care.

An important point in the study is the fact that 39% of respondents believe it's worth considering

the use of protective equipment when children are actively spending their free time only after previous injuries.

Interviews with medical professionals display alarming situation in child injuries

“In my opinion, there is a serious lack of supervision, information, training and prevention. Because in reality a very large proportion of injuries can be prevented and it’s no secret that 80% of injuries happen at home, which seems to be the safest environment for a child, but in reality it is not;”

“Parents do not supervise their children. Mostly everyone is on their smart phone and does not pay attention to their child”

Conclusions:

1. It can be concluded that children’s trauma is quite common nowadays, as 88% of respondents state that they have experienced injuries
2. The most common place of child injury is at home
3. After interviewing medical staff, authors concludes that parents lack understanding of both injury prevention measures and the provision of first aid in cases of child injuries

Key words; first Aid, child injuries, parents knowledgeable,

#23565 : RELATIONSHIP BETWEEN GENDER AND LIGHT MEAL INTAKE BETWEEN MEALS IN PROFESSIONAL MASTER'S NURSING STUDENTS**Authors:**

Brunilda Subashi (1), Llambi Subashi (2)

1. , Universiteti "Ismail Qemali" Vlore, Vlore, Albania

2. Spitali Rajonal Vlore, Spitali Rajonal Vlore, Vlore/ Albania, Italy

Keywords: gender, light meal, nurse, students

Abstract :**Background and Aims:**

Malnutrition, in all its forms, is a global problem.

Worldwide, one in three people suffer from some form of malnutrition.

Today, almost 800 million people suffer from chronic undernourishment and more than 2 billion people suffer from micronutrient deficiencies. Another 1.9 billion people are overweight, and 600 million of them are obese. And the prevalence of overweight or obese people is increasing in almost all countries.

A healthy diet helps protect us from malnutrition in all its forms, as well as from noncommunicable diseases, including diabetes, heart disease, strokes and cancer.

Methods:

This is a descriptive correlational study included 27 randomly selected professional master's students in surgical nursing, who completed an online anonymous questionnaire regarding nutrition and the correlation between gender and the dependent variables, during 15-16 June 2019.

Results:

The study showed that: 88% was female, the main age was 23 years old.

47% refer that believe they rarely eat healthy. 48% rarely eat snacks between meals, 45% always follow any diet type, 41% sometimes read food labels to know their composition, 48% never eat slowly and sit down, 45% consume 3 meals/ day. Was found a moderate positive correlation ($r=0.36$) between gender and light meal intake between meals.

Conclusions:

The findings show that the alimentary habits of nursing students are not always healthy for the most part of them, and also suggests increasing knowledge and promoting healthy behaviors in nursing students as a key element in health education and the promotion of healthy behaviors in the community.

Authors:

Llambi Subashi (1), Brunilda Subashi (2), Leonard Likaj (3), Elca Gerxhi (3), Genti Kondo (3), Ina Shuaipi (3), Indrita Fejzaj (3)

1. Spitali Rajonal Vlore, Spitali Rajonal Vlore, Vlore/ Albania, Italy

2. , Universiteti "Ismail Qemali" Vlore, Vlore, Albania

3. Spitali Rajonal Vlore, Spitali Rajonal Vlore, Vlore/Albania, Italy

Keywords: alimentary, habits, nurse, students.

Abstract :**Background and Aims:**

Malnutrition, in all its forms, is a global problem.

Worldwide, 1 in 3 people suffer from some form of malnutrition.

Today, almost 800 million people suffer from chronic undernourishment and more than 2 billion people suffer from micronutrient deficiencies. Another 1.9 billion people are overweight, and 600 million of them are obese. A healthy diet helps protect us from malnutrition in all its forms, as well as from noncommunicable diseases, including diabetes, heart disease, strokes and cancer.

Methods:

This is a descriptive study included 27 randomly selected professional master's students in surgical nursing, who completed an online anonymous questionnaire regarding alimentary habits during 15-16 June 2019. The statistical analysis included descriptive statistics.

Results:

The study showed that: 88% was female, the main age 23 years old. 40.7% refer that consume 1 portion of fruit per day, 74.1% consume candy, snacks or industrial dough products once a day, 55.6% consume 1 meal of dairy products a day, 33.3% consume vegetables 3 times a week. 40.7% consume meat 3 times a week, 48.2% consume fish once a week, 44.4% consume chicken once a week, 53.9% consume fast food once a week, 30.8% consume 3 refreshments during the week, 46.2% consume fried foods once e week, 26.9% drink 5-6 glasses of water/day, and 19.3% drink 9-10 glasses of water/day.

Conclusions:

The findings show that the alimentary habits of nursing students need to be improved, and

suggests increasing knowledge and promoting healthy behaviors to go back to our Mediterranean diet.

#23569 : Changes observed in short physical performance battery among elderly patients admitted to a clinical decision unit.

Authors:

James Hanratty (1), Timothy Balfour (1), Stephen Gilmartin (1), Rosa Mc Namara (1)

1. Emergency Medicine, St. Vincent's University Hospital, Dublin, Dublin, Ireland

Keywords: short physical performance battery, elderly patients, clinical decision unit

Abstract :

Introduction: Short physical performance battery (SPPB) is a recognised tool for assessing lower limb functionality in the older population. It was initially used in community based patients and poor performance in the test is associated with functional decline, nursing home placement, increased care giver needs and mortality. The aim of this study is to assess patients over the age of 65 following a one night admission to a clinical decision unit who are able to perform the SPPB.

Methods: Tests of balance, time to walk 4 metres, and time taken for 5 serial sit-to-stand motions from a chair were administered to 5 initially nondisabled persons admitted overnight to the clinical decision unit. Follow-up assessments were performed the next day at point of discharge from the emergency department.

Results: In total, five patients (4 F: 1 M) admitted to the clinical decisions unit overnight met the inclusion criteria for the study. No individual decrease in score was observed between initial SPPB performed on admission and SPPB the next day. In one case, an improved performance was observed.

Conclusions: This study provides initial results and early evidence that overnight admission to a clinical decision unit does not negatively affect performance in SPPB for patients over the age of 65. We feel this shows

the benefit clinical decision units have for older persons over prolonged hospital admissions where decline in physical performance is well documented. Recruitment for this study is ongoing.

Trial Registration / Funding Information (only) :

The St. Vincent's Healthcare Group, Ethics and Medical Research Committee have reviewed and approved this study. Informed and written consent gained from patients prior to enrolment on the study.

#23570 : Clinical presentation of patients with hypertensive emergencies, comorbidities, and target organ involvement

Authors:

Gheorghe Ciobanu (1), Victoria Melnicov (2)

1. State University of Medicine and Pharmacy , Emergency Department , Chisinau , Moldova, Republic of

2. Emergency Department, State University of Medicine and Pharmacy , Chisinau, Moldova, Republic of

Keywords: hypertensive crisis, emergency, urgency

Abstract :

Introduction Hypertensive crisis is defined as levels of systolic blood pressure >180 mmHg and/or levels of diastolic blood pressure >120 mmHg and is usually seen in patients with essential hypertension. In addition, hypertensive crisis is a severe clinical condition in which a sudden increase in arterial blood pressure can lead to acute vascular damage of vital organs, so timely detection, evaluation and adequate treatment are crucial to protect target organ function, ameliorate symptoms, reduce complications, and improve clinical outcomes.

Materials and Methods: A retrospective study was conducted in the Emergency medical services in Chişinău, Republic of Moldova. All medical records with a diagnosis of hypertensive emergencies were identified based on the ICD,R10. The study was conducted from January 01,2019 to December 31,2019, and included 630 subjects of both sexes, aged 28–92 with a diagnosis of hypertensive crises. All subjects were divided into two groups: hypertensive urgencies (492 subjects) and hypertensive emergencies (138 subjects). The aim of this study was to evaluate the hypertensive emergencies in the Emergency medical services in relation to clinical presentation, comorbidities, and target organ involvement.

Results:The study results indicate that female subjects were significantly over- represented compared to men (285–57.9% vs. 207 – 42.1%, $p=0.007$). The average age of the male subjects was $56,6 \pm 16,6$ years, while the female subjects' average age was $58,4 \pm 12,6$ years. The majority of subjects belonged to the age group of 60–69 (36.4%) years of age: 28.8% hypertensive urgency and 38.6% hypertensive emergency. The average blood pressure in subjects with hypertensive crisis was $212.46/122.16$ mmHg. Hypertensive emergencies frequently present with chest pain (30,4%), dyspnea (28.6%) and neurological deficit (29.4%). Types of end-organ damage associated with hypertensive emergencies include cerebral infarction (26.4%), acute pulmonary edema (24.8%) and hypertensive encephalopathy (28.6%), as well as cerebral hemorrhage (4.5%) and congestive heart failure (12%). Other clinical presentations associated with hypertensive emergencies include aortic dissection (0.8%),renal failure (1.02%) preeclampsia and eclampsia (2,6%), as well as acute coronary syndromes (20.4%) and hypertensive retinopathy(6.8%).

Conclusions: Patients with hypertensive emergencies require immediate reduction in elevated blood pressure to prevent and arrest progressive end-organ damage Clinical manifestations of hypertensive emergency were cerebral infarction ,acute pulmonary edema , hypertensive encephalopathy,acute coronary syndromes , cerebral hemorrhage, congestive heart failure, aortic dissection, peeclampsia and eclampsia .Types of end-organ damage associated with

hypertensive emergencies include CNS(cerebral infarction, hypertensive encephalopathy, cerebral hemorrhage),cardiovascular system (acute pulmonary edema, acute coronary syndromes, congestive heart failure, aortic dissection). Other end-organ damage associated with hypertensive emergencies include renal failure , preeclampsia and eclampsia and hypertensive retinopathy.

#23571 : Traumatic knee subluxation- a case report

Authors:

Sujit Kumarasinghe (1)

1. Helicopter Retrieval, LifeFlight Retrieval Medicine, Sunshine Coast, Australia

Keywords: Knee, trauma, subluxation, dislocation, prehospital

Abstract :

ABSTRACT

Sujit Kumarasinghe

LifeFlight Retrieval Medicine

Sunshine Coast Base

Queensland

Australia

TITLE

Traumatic knee subluxation- a case report

INTRODUCTION

Whilst undertaking prehospital retrieval, we encountered an unusual case of traumatic knee subluxation. Traumatic knee (tibiofemoral) dislocations are surgical emergencies due to the high risk of vascular injury to the popliteal artery; current evidence promotes early joint relocation in order to mitigate complications. In this poster we shall describe our case report followed by a discussion and comparison of management strategies of knee subluxation vs. knee dislocation.

CASE

A 17 year old male sustained a traumatic left knee injury after colliding his motorcycle with a quad bike driven by another passenger. The patient was thrown forward over the handle bars and towards the left hand side, catching his knee against one of the handle bars. As this injury occurred on a farm, the patient landed on soft mud sustaining no other concerning injuries. On arrival, this patient was hemodynamically stable, with no concerns to airway, breathing, circulation or disability. On exposure, this patient had an obvious, closed knee injury, with the proximal tibia protruding laterally to the distal femur. Distal foot pulses were palpable, sensation was intact and patient was able to wiggle his toes. Given the neurovascularly intact foot, and estimated travel time in the helicopter to the nearest hospital with vascular and orthopaedic input was 20 minutes away, a decision was made to package the patient as is, and transport directly without prehospital reduction of the joint. En route, light sedation and analgesia was provided with intravenous fentanyl and ketamine. No in-flight complication were experienced. Knee x-rays in hospital confirmed a lateral tibiofemoral subluxation with no obvious fractures. Further investigations revealed injury to the medial collateral ligament (MCL) and

anterior cruciate ligament (ACL), however no vascular injury. This patient was discharged with a knee splint in situ and followed up in orthopaedic clinic for consideration for elective ACL repair.

DISCUSSION

Traumatic knee dislocations account for 0.02% of knee injuries and there is speculation that this figure is underreported as up to 50% of these injuries spontaneously relocate resulting in misdiagnosis. Knee dislocations are considered surgical emergencies due to the high risk of vascular injury to the popliteal artery; this perpetuated but the misnomer that palpable foot pulses are reassuring for no vascular injury, when in fact foot pulses could still be present due to collateral flow from the geniculate arteries. There are currently no published cases or studies involving traumatic knee subluxation, nor are there any management guidelines or recommendations specific to knee subluxations. Following reflection of this case and considering the evidence behind knee dislocations, logical reasoning suggests that traumatic subluxations should be treated similar to a dislocation, with considerations for early relocation if possible in the pre-hospital field.

Attachment: ABSTRACT traumatic knee subluxation.docx

#23572 : Cocaine Induced Chest Pain**Authors:**

Uma Sangameshwar (1), Ken Maleady (2), Emily O'conor (3)

1. emergency medicine registrar , connolly hospital dublin ireland, dublin, Ireland

2. connolly hospital Dublin , Emergency medicine cardiology ANP, dublin, Ireland

3. connolly hospital Dublin , Consultant in Emergency Medicine, dublin, Ireland

Abstract :**Introduction:**

The use of cocaine has received a lot of media attention in the Republic of Ireland. The European Drug Report (2019) identifies that cocaine is the most commonly seized illicit drug. In Ireland at present, the level of purity of cocaine has increased by up to 73%, while the overall price of cocaine has decreased by 5%. Furthermore, cocaine related presentations to European emergency departments (ED) is at an all time high, cocaine accounts for the highest drug related ED attendances in Europe since 2017. Of these, over 40% presents with cocaine-related chest pain (Chang et al 2010, Fortney et al 2010, Kim & Park 2019). Cocaine has a significant impact on cardiac health and has been directly linked to cardiac arrhythmias, coronary artery disease (CAD), hypertension, acute myocardial infarction (AMI), cardiomyopathy and coronary artery aneurysm (CAA) (Kim & Park 2019). This study has analysed cocaine related chest pain in a large Irish ED over a 12 month period.

Objectives:

To identify the number of CICP (Cocaine Induced Chest Pain) presentations to a large Irish ED over a 12 month period, analyse concurrent data, diagnosis and outcomes, and develop a care pathway for CICP.

Methods:

A retrospective clinical audit of all cocaine induced chest pains presenting to an Irish ED were analysed. Using a clinical data IT system, patients were identified using "cocaine" as a search term from January 1st 2019 to January 31st 2020 yielding 223 presentations. A manual review of all presentations was conducted. The highest cohort of presentations was CICP with a total of 107 (47%). This was followed by the feeling generally unwell cohort with 44 (20%), 30 mental illness (13%) presentations, and 27 (12%) overdose and poisoning presentations.

Results:

Of the CICP presentations the most common diagnoses was atypical chest pain (23 %), CICP (19%), LRTI secondary to drug use (4%), ACS (2%), and 1 cardiac arrest. CICP was highest among men (87%), with an average age of 29.3 years. In reviewing occupation of the patients, the highest percentage were unemployed at 23%, followed by construction 18%, service provision 15% and

students 16%. Alcohol consumption was also high with 65% of CICP presentations admitting to alcohol consumption. A total of 32% admitted to other drug use which included cannabis, diazepam, ketamine and MDMA. Time of presentation post ingestion ranged from 24 hours, with 55% of cases presenting within 12 hours. Of all CICP's reviewed, 24% were admitted, 46% discharged and 1 fatality with the remainder were followed up by chest pain services. Of the 107 presentations, 2 were diagnosed as acute coronary syndrome, 2 with myocarditis, 1 pneumomediastinum, 1 serotonin syndrome which proved fatal, and 1 out of hospital cardiac arrest with significant coronary disease on post mortem.

Conclusion:

This audit has identified the prevalence and Current management of CICP presentations. It also shows the increasing demand on already overstretched service. The need for a CICP pathway has been identified and developed within the department. This will facilitate a consistent standard based treatment for this core group of patients.

#23573 : ED Management of a patient in pulseless electrical activity with aspirated foreign body

Authors:

Muhammad Bilal (1), Rashid shammy Ali (2), Michael Molloy (3), paul kelly (3), Eoin kelly (3)

1. , , WEXFORD, Ireland

2. , wexford general hospital, wexford, Ireland

3. Irish association of emergency medicine, wexford general hospital, wexford, Ireland

Keywords: Foreign body Airway Obstruction (FBAO), Pulseless Electrical Activity (PEA), Cardio Pulmonary Resuscitation (CPR), Return Of Spontaneous Circulation (ROSC), Out of Hospital Cardiac Arrest (OHCA), National Ambulance Service (NAS), Intensive Care Unit (ICU)

Abstract :

AUTHORS

Muhammad Bilal Registrar EM , Shammy Rashid Ali Registrar EM, Michael Molloy Consultant EM, Paul Kelly Consultant EM ,Eoin Kelly consultant EM

Department of Emergency Medicine, Wexford General Hospital

Disclaimers:**Consent:**

Patient consent was obtained

Key words:

Foreign body Airway Obstruction (FBAO), Pulseless Electrical Activity (PEA), Cardio Pulmonary Resuscitation (CPR), Return Of Spontaneous Circulation (ROSC), Out of Hospital Cardiac Arrest (OHCA), National Ambulance Service (NAS), Intensive Care Unit (ICU), Endotracheal tube (ETT)

INTRODUCTION

FBAO is common in children but less frequent in adults, in adults the presentation is often delayed. Symptoms can range from cough, dyspnea, choking, and acute asphyxiation leading to cardiorespiratory arrest. Clinical manifestations vary according to the degree of airway obstruction in some cases making the correct diagnosis requires a high level of clinical suspicion combined with detailed history and exam. Cardiac arrest after FBAO may occur secondary to asphyxiation. Prehospital cardiopulmonary arrest carries poor prognosis with survival rate less than 10%.

CASE PRESENTATION

A 74 year old gentleman brought to ED by NAS (National Ambulance Service) having collapsed at home, CPR initiated by Neighbors brought to ED with ROSC from witnessed cardiopulmonary arrest. 2-3 cycles of CPR completed prior to EMS arrival.

MANAGEMENT AND OUTCOME

Patient was self ventilating on arrival but was intubated and ventilated in ED secondary to persistent low saturation despite seemingly adequate ventilation. No foreign body visualized during intubation.

Patient had 2 further cardiac arrests (PEA) 2-3 cycle of CPR initiated with ROSC each time.

A flexible bronchoscope was introduced through the tube and large meat bolus (3-4cm) retrieved using endoscopy biopsy forceps with improvement in respiratory status and patient subsequently admitted to ICU.

Patient extubated after 4 days, treated for aspiration pneumonia and discharged from hospital after 21 days with no neurological deficit.

DISCUSSION

Tracheobronchial Aspiration is life threatening, early recognition is vital. This case highlights importance of early CPR in OHCA, advantages of flexible bronchoscopy and endoscopic biopsy forceps in retrieval of foreign body. It also demonstrates that successful resuscitation requires multidisciplinary approach and frequent re-evaluation if no improvement after interventions.

Community CPR initiatives have had numerous early successful resuscitations. This also highlights the importance of early CPR in OHCA.

Authors:

Mohamed Hassene Khalil (1), SARRA SASSI (1), CAMILLIA JEDDI (1), msolli mohamed amine (1), kawthar beltaief (1), adel sekma (1), khawla belhajali (1), mohamed sassi (1), hamdi boubaker (1), semir Nouira (1)

1. Fattouma bourguiba emergency department, Emergency department Monastir, Monastir, Tunisia

Keywords: HEART score, chest pain, Major adverse cardiovascular events, Tunisia

Abstract :**Introduction**

Chest pain remains one of the most common, potentially serious presenting complaint in the emergency department (ED). Many prognostic scores were developed to risk stratify patients with undifferentiated chest pain. HEART score is considered one of the best of them. This study aims to validate the HEART score as a tool for the prediction of Major adverse cardiac event (MACE) for a Tunisian chest pain patients.

Materials and methods

We conducted a retrospective observational study of ED patients who were admitted to chest pain unit in the emergency department of the teaching hospital of Monastir (Tunisia). Each patient get his HEART score calculated and then classified into one of the 3 groups (low risk group « HEART score 6 »). The main outcome was the occurrence of (MACE) including all cause mortality, non-fatal myocardial infarction (MI) and stroke within 30 days.

Results

we enrolled 4409 patients, 529 patients were excluded. The main exclusion criteria were : lack of the troponin value and loss to follow up. This resulted in 3380 subjects included. Mean age was 56 ± 13.8 years, 59.5% were men. Applying HEART score on our population have shown that most patients belong to intermediate risk group (n=2146, 55.3%), followed by low risk group (n=1119, 28.8%) and high risk group (n=615, 15.9%). six patients (0.5%) had MACE in the low risk group, 51 patients (2.4%) had MACE in the intermediate risk group and 83 patients (13.5%) developed MACE in the high risk groupe (p<0.001) The HEART score had an overall discrimination to predict MACE with an area under the ROC curve of 0.81 (95% CI: 0.77 to 0.84).

Conclusion

HEART score has a reliable performance to predict the occurrence of 30 days MACE in a large Tunisian population of emergency department patients presenting with undifferentiated chest pain.

#23575 : Characteristics of healthcare workers in a Covid-19 area in an Emergency Department based on their job position.

Authors:

Raul Lopez Izquierdo (1), Laura Fadrique Millan (2), Virginia Carbajosa Rodriguez (2), Francisco Martín Rodríguez (3), Miguel Ángel Castro Villamor (4), Vanesa Hernández Bruno (5), Ana María González Fernández (5), Escudero Cuadrillero Carlos (6), Irene Alonso Ferradal (5), Portillo Rubiales Raquel (4), Esther Dura Ballester (4), Candelas Galindo Aparicio (5), Villahoz Cancho Isabel (5), Delgado Alonso Lorena (5), Inmaculada García Ruperez (7), Irene Cebrian Ruiz (2), Ruiz Merino Rocio (5)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
3. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
4. CONVVA Valladolid Hospital, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain
5. Emergency Department, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
6. Servicios Centrales de Gerencia Regional de Salud, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain
7. Emergency Department, Hospital Universitario Río Hortega. Valladolid, Valladolid, Spain

Keywords: Covid, emergency, healthcare workers

Abstract :**Background:**

The Emergency departments are one of the areas where the Covid-19 pandemic is being treated. In the analysed emergency department, a specific zone for the care and treatment of suspected Covid-19 infected patients has been created. That zone works with personal protection equipment that can affect the professional performance but also are essential to avoid contagion.

Aims:

To know the characteristics of the healthcare workers who work in the Covid zone of an Emergency department based on their job position.

Material and Methods:

A study of volunteer health care staff who worked in a Covid-19 zone in an Emergency Department during the month of April 2020 was carried out. The following variables were analyzed: Age, age group: 18-40 years, >40 years. gender, job title: doctor, nurse, assistant, years of experience: <6, 6-15, >15 years; temporality: permanent or temporary; previous pathologies: hypertension, mellitus diabetes (MD), headache, previous respiratory disease, hypothyroidism, physical state: survey: sedentary, active, athlete; training perception, fear of working in the COVID zone: low, medium, high. Descriptive analysis of the sample according to job position, comparison of qualitative variables, by Chi-square and ANOVA for quantitative variables. Software: SPSS 24.0; $p < 0.05$.

Results:

N: 107; Median age: 39.6 (10.0) years; GE: 22-40: 54 (50.5%), >40: 53 (49.5%); Female: 82 (76.6%); Fixed: 34 (31.8%); Medical: 27 (25.2%), Nursing: 51: 47.7%, Assistant: 29: 27.1%. Previous pathologies: Hypertension: 2.8%, MD: 0.9%, Hypothyroidism: 8.4%, previous respiratory disease (asthma, COPD, allergy): 9.3%, headache: 3.7%. Sedentary: 44.9%, active: 36.4%, sports: 18.7%; Training: low: 15.0%; medium: 33.6%, high: 51.4%. Analysis by position: Mean age:

physician: 41.1 (7.3) years, nursing: 35.9 (9.5), ATSD: 44.9 (10.8) ($p < 0.001$): GE: >40: physician: 51.9%, nursing: 37.3%, assistant: 69.0% ($p < 0.05$); Sex: female: physician: 77.8%, Nursing: 70.6%, assistant: 86.2% ($p > 0.05$); Marital status: married: physician: 51.9%, Nursing: 33.3%, assistant: 37.9% ($p > 0.05$); Employment status: Fixed: physician: 40.7%, Nursing: 25.5%, assistant: 34.5% ($p > 0.05$). Physical condition (sedentary, active, sportsman): physician (37.0%, 37.0%, 25.9%), nursing (47.1%, 35.3%, 17.6%), assistant: (44.9%, 36.4%, 18.7%) ($p > 0.05$); Training received (low, medium, high): doctor: (7.4%, 37.0%, 55.6%), nursing (17.6%, 33.3%, 49.0%), assistant (17.2%, 31.0%, 51.7%) ($p > 0.05$), Level of fear of entering (low, medium, high): doctor (59.3%, 18.5%, 22.2%), nursing: (33.3%, 25.5%, 41.2%), assistant (37.9%, 20.7%, 41.4%) ($p > 0.05$).

Discussion:

Healthcare workers entering the covid area are generally young, without previous pathologies and preferably of the female gender. The nursing group is significantly younger than the rest. It is observed that the medical personnel are the ones who show more training and less fear of work, which may indicate that training makes the level of fear of this type of work decrease, although no statistically significant differences have been observed with the other groups of professionals analysed.

Trial Registration / Funding Information (only) :

ISRCTN18348009 <https://doi.org/10.1186/ISRCTN18348009>. Occupational health and safety among health care personnel in a COVID-19 pandemic /Ethics approval Approved 10/04/2020, CEIC Área de Salud de Valladolid Oeste (Hospital Universitario Río Hortega, 47012 Valladolid (Valladolid); +34 983 420 400; rconvi@saludcastillayleon.es), ref: PI075-20.

#23576 : Signs and symptoms of COVID19 patients referring to emergency department, a review of articles

Authors:

Amir Nejati (1), Amir Nejati (1), Mohammad Afzali Moghadam (1), Seyed Hossein Hosseini Davarani (1)

1. Emergency Department, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

Keywords: COVID19, new Corona virus, emergency department, emergency physicians, diagnosis

Abstract :

Background:

The world has been embroiled in a new Corona Virus Disease (COVID19) for several months. Most of the symptoms attributed to the disease caused by the new coronavirus are also seen in other upper respiratory illnesses. Emergency medicine professionals need to know the prevalence and importance of symptoms in patients suffered from COVID19, and they have to decide which patients should be considered to be infected or suspected of having COVID19.

Method:

We reviewed all recent articles on COVID19, English-language papers reporting signs and symptoms of the patients. All papers investigating outpatients or inpatients were accepted. Articles that did not mention the number of patients was excluded from the study.

We collected the number of patients with specific symptoms with similar patients in all articles. Then we considered the pooled and collected results as the final percentage of the occurrence of every specific symptom.

Results:

Twenty-two articles were included in the study for evaluation. Thirteen articles were excluded from the study due to the absence of signs and symptoms of patients with COVID19 in a certain number or percentage. The WHO paper was removed due to the reporting of only the percentage of signs and symptoms without the exact number of patients examined but was eventually used to compare the percentage. In total, except for the WHO article, 8 articles were included in the study.

The number of examined patients varied from 16 to 1,099, all of them were 2330.

Some articles only covered the main symptoms (an article with a report of 3 symptoms) and some of them even reported very rare symptoms (three articles with a report of 13 different symptoms). In total, 19 symptoms (an average of 10 symptoms per article) were reported.

In terms of overall prevalence, based on the number of patients, fever (on average in 80% of the patients) and dry cough (67%) are the most common reported symptom which has followed by common reported signs and symptoms including anorexia (40%), fatigue (35%), cough accompanied by sputum (33%), weakness (31%) and finally confusion (25%).

Less common symptoms include shortness of breath (16%), myalgia with or without arthralgia (15%), concomitant symptoms of three including fevers, dry cough and shortness of breath (14.7%), sore throat (13.7%), headache (11.7%), dizziness (11%) and diarrhea (10%).

Uncommon symptoms include nausea and vomiting (7%), nasal congestion (5.5%), and abdominal pain (3.5%).

Discussion & Conclusion:

Based on the above data, it is recommended that emergency medicine specialists who encountered the patients with the following symptoms should consider the patient as a COVID19, and they need to use serious preventive and diagnostic measures for them. Patients with one of the very common symptoms (dry fever, cough), or with both common symptoms (fatigue, cough accompanied by sputum) or with at least three less common symptoms (shortness of breath, myalgia or arthralgia, sore throat, and headache and diarrhea) and finally patients with one common symptom and two less common symptoms, should be considered high risk.

Trial Registration / Funding Information (only) :

This is not applicable to our study

#23579 : Chemotherapy induced Takotsubo Cardiomyopathy

Authors:

Muhammad Bilal (1), Rashid shammy Ali (2), Muhammad Raza (2), Michael Molloy (3), paul kelly (3), Eoin kelly (3)

1. , , WEXFORD, Ireland

2. , wexford general hospital, wexford, Ireland

3. Irish association of emergency medicine, wexford general hospital, wexford, Ireland

Keywords: Tokotsubo Cardiomyopathy (TC), Point of care ultrasound (POCUS), Right ventricle (RV), Left ventricle (LV), Left ventricle ejection fraction (LVEF), Coronary Care unit (CCU), Pulmonary Embolism (PE), 5 Fluorouracil (5-FU), Low Molecular Weight Heparin (LMWH)

Abstract :

AUTHORS

Muhammad Bilal Registrar EM , Shammy Rashid Ali Registrar EM, Muhammad Usman Raza Registrar EM, Michael Molloy Consultant EM, Paul Kelly Consultant EM , Eoin Kelly consultant EM

Department of Emergency Medicine, Wexford General Hospital

Disclaimers:**Consent:**

Patient consent was obtained

Introduction

Takotsubo Cardiomyopathy is characterized by transient ventricular systolic dysfunction in absence of obstructive coronary artery disease, typically accompanied by ST-Segment changes / T wave inversions with raised Troponin levels. TC (stress induced cardiomyopathy, broken heart syndrome), so named due to appearance of left ventricles resembling “Japanese octopus pot”.

Case Report

A 57 years old female presented to ED with multiple episodes of central chest pain radiating to left arm and a pre-syncopal episode .she had 1st cycle of chemotherapy (Folfox-5-Fluorouracil) 2days ago for colonic adenocarcinoma. Asymptomatic on arrival. Initial bloods, ECG, Troponin and chest X-Ray were normal.

She had another presyncopal episode, became pale, diaphoretic and hypotensive 90/60. Repeat ECG showed T Wave inversion in inferolateral leads. Both Troponin (0.31), D-Dimer (7.34) were elevated.

POCUS demonstrated RV hypokinesia, LV dilated with severe global dysfunction, LVEF 15%. Profound hypotension requiring dobutamine infusion and subsequent admission to CCU. Departmental echocardiogram confirmed the initial findings. CT Pulmonary angiogram was

negative for P.E.

Coronary angiogram revealed non-obstructing coronary arteries and normal ventricular systolic functions with final diagnosis of Takotsubo Cardiomyopathy. She was discharged on LMVH and Ramipril. Follow up Echocardiogram after 5 weeks, demonstrates normal LV function with EF 50-60%.

Patient reviewed by Oncology and changed chemotherapy to camptothecin-11.

Discussion

TC is reversible cardiomyopathy associated with physical/emotional stresses. It is rare complication of chemotherapy, Only 27 cases of cancer related therapies have been reported since 2000. , 19 of those attributed to chemotherapy, 6 to monoclonal antibodies, 2 to tyrosine kinase inhibitor, 11 (40.7%) has had 5-FU as part of chemotherapy regimen, 8 were poly-chemotherapies. 5-FU is the most common drug associated to Takotsubo cardiomyopathy. Probable mechanism is 5-FU mediated formation of circulating micro thrombi due to kallikrein micro thrombi generation leading to ventricular dysfunction.

Attachment: Case Report tokotsubo cardiomyopathy.docx

#23583 : Traumatic slipped upper femoral epiphysis (Delbet type 1 fracture)

Authors:

Masa Petricevic (1), Waqar Shah (2)

1. Emergency Medicine Trainee, Royal College of Surgeons in Ireland, Dublin, Ireland
2. Consultant in Emergency Medicine, Tullamore Regional Hospital, Tullamore, Ireland

Keywords: SCFE, trauma, Delbet

Abstract :

Introduction: Traumatic fractures of the proximal metaphyseal end of the femur in children are extremely rare and account for about 1% of all paediatric fractures. These fractures can be classified by the Delbet classification. The Delbet classification is widely used and includes four types. The major complications following these fractures are avascular femoral head necrosis (21–80%), coxa vara (8–21%) and premature physeal closure (28–30%).

Case Report: We are presenting a case of the least common fracture of the neck of femur in children. Patient is a fifteen years old male who was brought into Emergency Department (ED) by ambulance following a fall. He was in the school at the time of the injury. He missed the chair and fell full force straight on the floor. He felt severe and sharp pain in his right hip and was unable to move his leg nor able to weight bear. He did not sustained any other injuries.

On the arrival in ED all his vital signs were within normal range and his main complaint was severe pain. He received appropriate dose of non steroidal anti-inflammatory medicine followed by intranasal fentanyl administration.

On the examination it was noted that his right leg was in external rotation and slightly shortened. All movements were restricted and extremely painful. Neurovascular examination of the lower extremities was normal. It was suspected that he sustained injury to the pelvic ring with possibility of right femur fracture. Radiographic images of the pelvis and right hip were obtained shortly after.

X-ray confirmed suspected diagnosis of right hip injury. Injury is classified as a traumatic slipped upper femoral epiphysis or by Delbet classification as a femoral head transepiphyseal fracture (Delbet type 1b). Official radiologist report states moderate slip for 1.7cm

Orthopaedic surgeons were contacted immediately and all pre operative investigations were performed in Emergency Department. Patient was transferred to tertiary hospital for open reduction and fixation.

Conclusion: Despite the rarity of the neck of femur fractures in children this case demonstrate importance of prompt diagnosis and treatment to avoid complications such as femoral head necrosis.

Attachment: scfe.jpg

#23587 : Analysis of metabolic fatigue among health workers working in isolation environments by Covid-19 in the emergency services.

Authors:

Raul Lopez Izquierdo (1), Laura Fadrique Millan (2), Virginia Carbajosa Rodriguez (2), Francisco Martín Rodríguez (3), Ana Maria Gonzalez Fernandez (4), Miguel Angel Castro Villamor (5), Candelas Galindo Aparicio (4), Irene Alonso Ferradal (4), Villahoz Cancho Isabel (4), Vanesa Hernandez Bruno (4), Nieto Alvarez Lorena (4), Gabino Mozo Herrera (5), Portillo Rubiales Raquel (5), Esther Dura Ballester (5), Escudero Cuadrillero Carlos (6), Henar Bergaz Diez (2), Maria Jesus Giraldo Perez (4), Patricia Bustamante Marcos (4)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
3. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
4. Emergency Department, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
5. CONVVA Valladolid Hospital, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain
6. Servicios Centrales de Gerencia Regional de Salud, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain

Keywords: Covid, emergency, healthcare workers

Abstract :**Background:**

Since the beginning of the Covid-19 pandemic, isolation environments have been developed where health workers are performing their work. The work is carried out with individual protective equipment which carries a significant physical and emotional burden.

Aims:

To find out what factors are related to metabolic fatigue among health workers in a hospital emergency department in isolation work environments by Covid-19.

Material and methods:

A study of volunteer health care staff who worked in a Covid-19 zone in an Emergency Department during the month of April 2020 was carried out. The following variables were analyzed: Age, age group (AG): 18-40 and >40 years; gender, job position: doctor, nurse, assistant, duration of work, presence of smoking, respiratory pathology, hypothyroidism, body mass index: normal, overweight, obesity, physical condition by means of an IPAQ survey: sedentary, active, sportsman, feeling of physical preparation for this work (low, medium, high), feeling of tiredness on entry and exit (low, medium, high). Capillary blood glucose and capillary lactate blood glucose were calculated at the entrance and exit of the Covid-19 zone, using an Accutrend Plus measurement device (Roche Diagnostics, Mannheim, Germany). Metabolic fatigue (MF) has been defined as a worsening of capillary lactic acid by more than 10% between inlet and outlet lactic acid. A descriptive analysis of the sample has been performed. Comparison of qualitative variables using Chi-square and quantitative variables using non-parametric tests. Software: SPSS 24.0. $p < 0.05$.

Results:

N: 84; Median age: 40.01 (9.9) years; GE: 22-40: 41 (48.8%), >40: 43 (51.2%); Female: 65 (77.4%); Doctor: 27 (25.2%), Nurse: 51: 47.7%, ACTS: 29: 27.1%. MF: 26 (31.0%). Average time spent in covid zone: 4:00 (IQR: 3:30-5:03) minutes. Variables and MF: AG: 18-40: 34.1%, >40:

27.9% ($p>0.05$); sex: female: 29.2%, male: 36.8% ($p>0.05$); smokers: Yes: 30.8%, No: 31.0% ($p>0.05$); hypothyroidism: Yes: 42.9%, No: 29.9% ($p>0.05$); respiratory pathology: Yes: 37.5%, No: 30.3% ($p>0.05$); Sedentary: 40.0%, Active: 20.0%, Sport: 35.7% ($p>0.05$); feeling of physical preparation: medium: Yes: 62.5%, high: 27.6% ($p<0.05$); MC: normal: 39.4%, overweight: 0%, obesity: 0% ($p=0.006$); Tired on entry: low: 34.0%, medium: 33.3%, high: 21.1% ($p>0.05$); Tired on exit: low: 18.2%, medium: 30.0%, high: 34.0% ($p>0.05$); Fear of work: low: 27.6%, medium: 21.1%, high 38.9% ($p>0.05$); average time covid zone FM: 3:50 (IQ: 3:24-4:20) vs No FM: 4:10 (IQ: 3:30-5:15) ($p>0.05$)

Discussion:

It doesn't seem that working in the covid area generates a significant increase in lactic acid, so there is no significant muscle fatigue. A greater than 10% increase in capillary lactic acid is only associated with the population with a normal BMI. And to a feeling of having a medium physical preparation to work in the covid area of an emergency department.

Trial Registration / Funding Information (only) :

ISRCTN18348009 <https://doi.org/10.1186/ISRCTN18348009>. Occupational health and safety among health care personnel in a COVID-19 pandemic /Ethics approval Approved 10/04/2020, CEIC Área de Salud de Valladolid Oeste (Hospital Universitario Río Hortega, 47012 Valladolid (Valladolid); +34 983 420 400; rconvi@saludcastillayleon.es), ref: PI075-20.

#23588 : ANALYTICAL ALTERATIONS AMONG HEALTH PROFESSIONALS WORKING IN COVID-19 ISOLATION AREAS DEPENDING ON THE TYPE OF MASK USED.**Authors:**

Raul Lopez Izquierdo (1), Francisco Martín Rodríguez (2), Laura Fadrique Millán (3), Miguel Ángel Castro Villamor (4), Virginia Carbajosa Rodríguez (3), Irene Alonso Ferradal (5), Portillo Rubiales Raquel (4), Nieto Álvarez Lorena (5), Esther Dura Ballester (4), Vanesa Hernández Bruno (5), Escudero Cuadrillero Carlos (6), Gabino Mozo Herrera (4), Villahoz Cancho Isabel (5), Candelas Galindo Aparicio (5), Ana María González Fernández (5), Jesús Álvarez Manzanares (3), Susana Sánchez Ramón (7), Hernández Gajate Mario (3)

1. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
2. Prehospital emergency medical service, Gerencias emergencias Sanitarias. Sacyl, Valladolid, Spain
3. Emergency Department, Río Hortega University Hospital, Valladolid, Spain
4. CONVVA Valladolid Hospital, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain
5. Emergency Department, Río Hortega University Hospital, Valladolid, Spain, Valladolid, Spain
6. Servicios Centrales de Gerencia Regional de Salud, CONNVA Valladolid Hospital. Salud Castilla y León. Spain, Valladolid, Spain
7. Emergency Department, Hospital Universitario Río Hortega. Valladolid, Valladolid, Spain

Keywords: covid, emergency, healthcare workers

Abstract :**Background:**

Since the beginning of the Covid-19 pandemic, isolation environments have been developed where health workers are carrying out their work. Working with personal protective equipment is essential, and analytical alterations among these workers may vary depending on the type of masks used.

Aims:

To find out if analytical alterations are produced depending on the type of masks used (N95 or FFP2) among health workers who carry out their work in environments of isolation by Covid-19

Material and methods.

A study of volunteer health care staff who worked in a Covid-19 zone in a Emergency Department and a field hospital designed for this purpose was carried out in April 2020. The demographic variables that were analyzed are: Age, gender, duration of work, type of mask used: N95, PFP2. The following were calculated: haematocrit, venous glycaemia, venous creatinine, PCO₂, HCO₃, venous lactate both at the entrance and exit of the Covid-19 zone, using a measuring device: epoc® Blood Analysis System and analysis if these parameters rise or not. A descriptive analysis of the sample has been carried out. Comparison of qualitative variables using Chi-square and quantitative variables using non-parametric tests according to age, gender and type of mask used. Software: SPSS 24.0. $p < 0.05$.

Results:

N: 63; Mean age: 35.8 (SD 10.8); Female: 46 (73.0%); Mean working time: 4:13 min (0:33). N95: 37.7%; FFP2: 62.3%. Percentage increase in: haematocrit: 55.6%, glycaemia: 39.7%, creatinine: 33.3%, PCO₂: 44.4%, HCO₃: 49.2%, lactate: 34.9%. Analysis by mask type, percentage of increase (N95 vs. FFP2): Hematocrit: 65.2% vs. 50.0% ($p > 0.05$), blood sugar: 26.1% vs. 44.7% ($p > 0.05$), creatinine: 39.1% vs 31.6% ($p > 0.05$), PCO₂: 60.9% vs 31.6% ($p < 0.05$), HCO₃: 47.8% vs 47.4% ($p > 0.05$), lactic: 30.4% vs 36.8% ($p > 0.05$).

Discussion:

The use of N95 masks during a prolonged period of time causes significant carbon retention but does not alter the rest of the parameters analyzed.

Trial Registration / Funding Information (only) :

ISRCTN18348009 <https://doi.org/10.1186/ISRCTN18348009>. Occupational health and safety among health care personnel in a COVID-19 pandemic /Ethics approval Approved 10/04/2020, CEIC Área de Salud de Valladolid Oeste (Hospital Universitario Río Hortega, 47012 Valladolid (Valladolid); +34 983 420 400; rconvi@saludcastillayleon.es), ref: PI075-20.

#23589 : Kidney failure as a presentation of supplement calcium syndrome in a subject treated with Calcium for secondary Hypoparathyroidism. A case report and literature review

Authors:

Marjeta Kermaj (1), Edlira Elezi (2), Thanas Fureraaj (2), Violeta Hoxha (2), Afrim Yzeiraj (3), Agron Ylli (2)

1. Endocrinology Department, UHC " Mother Teresa", Tirana, Albania
2. Endocrinology Department, UHC " Mother Teresa", Tirana, Albania
3. Emergency Unit, UHC " Mother Teresa", Tirana, Albania

Keywords: Kidney failure, calcium supplement syndrome, hypoparathyroidism, hypovitaminosis D.

Abstract :

Introduction: Hypercalcemia is a common disorder that can be a challenge to physicians. The two most common causes of hypercalcemia are primary hyperparathyroidism and malignancy. The "calcium supplement syndrome" (CSS) is thought to be a rare but important cause of hypercalcemia. CSS appears to be more common in women. Patients often have non-specific symptoms but chronic hypercalcemia can lead to kidney failure.

Case report: We report a clinical case of a woman 60 years old with hypoparathyroidism which was presented at the emergency unit with mental confusion, significant physical weakness, fatigue, difficulty swallowing water and food, feeling suffocated, difficulty breathing, abdominal pain, difficulty moving all four limbs and general aches and pains from no obvious cause. Medical history: At the age of 18 she underwent total thyroidectomy and since then she had been treated with calcium supplements and vitamin D analogs (Tachystin liquid) but without medical control. Symptoms have been aggravated during the last 2 months. Initially, she was treated with liquids i/v, diuretics and oxygen therapy, then she was transferred to Endocrinology Department for further treatment. Laboratory examinations: RBC: $3.8 \times 10^6 / \text{mm}^3$, Hgb 10,5 g/dl, Hct 33%, uremia 79 mg/dl, creatinine 2.2 mg/dl, calcemia: 12.8 mg/dl, phosphate 2.8 mg/dl, parathormone 1.2 pg./ml (8–76), 25 OH vitamin D 315,2 ng/ml (>30), 24h albuminuria 0.08gr%, creatinine clearance 36.7 ml/min. After the examinations, it was found that the situation was related to chronic hypercalcemia as a result of CSS due to calcium intake without medical control for many years. The major side effect of this syndrome was renal impairment. The patient was diagnosed with chronic renal disease stage 3b and secondary anemia and arterial hypertension. It was concluded that hypercalcemia due to CSS was the cause of kidney failure. Calcium supplements were discontinued, intravenous hydration was administered. She continued therapy with vitamin D3 oral, antihypertensive and anemia medications. After 1 month: uremia: 31.9 mg/dl, creatinemia: 1.68 mg/dl, calcemia 9.9 mg/dl, magnesemia 2.13 mg/dl, phosphatemia 2.27 mg/dl. The clinical condition of the patient has been significantly improved. She continues to be stable, but the kidney damage did not go away.

Conclusion: Calcium and vitamin D supplementation is thought to have benefit effects on general health, and is also recommended for the treatment of hypoparathyroidism, osteoporosis and vitamin D deficiency. The treatment for a long time without medical control can cause a lot of

consequences, one of which is renal impairment. All physicians must be aware about CSS and long-term consequences especially kidney failure, to prevent them.

#23590 : Pre-hospital management of acute metabolic complications of diabetes

Authors:

sarra sassi (1), Dorra Loghmari (2), sondos Laajimi (3), lahouimel mariem (4), mrabet ahmed (4), friji anis (5), Mounir Najja (3), Naoufel Chebili (3)

1. , sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia
4. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
5. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia

Keywords: diabetes,prehospital,complication

Abstract :**Introduction :**

Diabetes Mellitus (DM) is a major public health problem. Most of the untreated or inadequately treated patients develop acute metabolic complications. These complications are associated with high mortality and morbidity. This study was aimed to determine the incidence, epidemiological and clinical characteristics in different acute metabolic complications of diabetes mellitus managed by the prehospital emergency care service of the central-eastern region of Tunisia

Materials and methods :

This was a retrospective study, conducted between January and December 2018, which included all the acute metabolic complications of diabetes mellitus assessed by the prehospital emergency care service of the central-eastern region of Tunisia (SAMU 03).

Results :

We have identified 202 patients (2.4 % of emergency calls) among them 64.4% were from Sousse. 76.2% of the calls were the subject of an emergency intervention. The average age was 55.4 years and the sex ratio was equal to 1. 40.1% of patients were insulin treated, 14.4% were under oral anti-diabetic drugs and 10.9% were unknown diabetic. 6.4% of patients had a chronic kidney disease. 42 patients (20.8%) had a GCS <10. The majority of patients were hemodynamically stable with an average systolic blood pressure at 130 mmhg and an average HR at 93 bpm . The average respiratory rate was at 20cpm (13-46cpm) and the average saturation of oxygen at 95%. Hypoglycemia was the most frequent acute metabolic complication (70.3%) of which 66% were insulin treated and 21.7% of diabetics under oral agent. Initial capillary blood glucose, in case of hypoglycemia, was an average of 0.37 g / L (range : 0.12 g / L-0.7 g / L). Regarding hypoglycaemia treatment modality, IV glucose was the most used. 40.6% of patients were treated at home and do not require a transportation to the ED.

Conclusion :

Despite the improvement in the management of diabetics , acute complications of diabetes remain relatively a frequent cause for emergency calls. Targeted training and the adjustment of therapeutic doses make it possible to reduce their frequency and severity.

#23595 : CASE REPORT : The use of transthoracic echocardiography to guide thrombolytic therapy during cardiac arrest due to massive pulmonary embolism

Authors:

Sarrah Sassi (1)

1. emergency department, CHU Fattouma Bourguiba Monastir, gabès, Tunisia

Keywords: transthoracic echocardiography, massive pulmonary embolism, cardiac arrest

Abstract :**Introduction :**

Pulmonary embolism is one of the causes of catastrophic haemodynamic collapse and sudden cardiac arrest in previously fit, well and often young patients. Earlier diagnosis of pulmonary embolism may permit wider use of thrombolytic agents or other interventions and may potentially increase survival. Ultrasound is currently the only radiographic modality with the potential to guide management in real time, at the bedside, during cardiac arrest without interfering with resuscitation.

Observation :

A 25 year old woman presented to our emergency department with a history of retrosternal pleuritic chest pain and dyspnoea followed by a brutal decrease of the state of consciousness. She was previously completely well, was a non-smoker and her only medication was an oral contraceptive. She was in cardiorespiratory arrest. Appropriate cardiopulmonary resuscitation was started and electromechanical dissociation was noted. There were no other abnormal clinical signs and no evidence of lower limb venous thrombosis. A transthoracic echocardiography was performed. This revealed a dilated right ventricle. A presumptive diagnosis of pulmonary embolism was made and the patient was given a thrombolytic therapy with 1.5million UI of streptokinase simultaneously with CPR maneuvers. Unfortunately, the patient was died and the autopsy confirmed the diagnosis of massive pulmonary embolism.

Conclusion :

This case report illustrates that transthoracic echocardiography has the potential to substantiate the clinical diagnosis of massive pulmonary embolism during cardiopulmonary resuscitation to the extent that thrombolytic therapy can be rapidly, safely and effectively administered.

Attachment: case report EP.docx

#23596 : Acute coronary syndrome with healthy coronaries in a young subject after cannabis use

Authors:

MAROUA TALBI (1), Dorra Loghmari (2), Rabeb Mbarek (3), ghada shili (1), Chrifa Benchikh (4), nouhel mzid (1), Farrouk Douma (5), Mounir Naija (5), Naoufel Chebili (5)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, SOUSSE, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: cannabis,coronaries,STEMI

Abstract :**Introduction:**

Cannabis is the most frequently used drug in the world mainly for its euphoric and hallucinogenic effects.

Its cardiovascular effects are currently well identified. However, few data are available concerning its involvement in the occurrence of acute coronary syndromes (ACS) We report 1 case of acute coronary syndrome with ST elevation occurring in a young patient aged 21 years, heavy user of cannabis.

Observation:

Mr. EM aged 21, without medical history, smoking and cannabis smoker, admitted for angina pains with profuse sweating for an hour .

The interrogation found a catch of cannabis 7 hours ago, that is 6 hours from the beginning of pain.

The clinical examination was normal. The electrocardiogram showed an inferior basal shift with an anterior mirror image. The management was to put it under anti thrombotic treatment and to proceed to the primary angioplasty. The coronary angiography showed healthy coronaries and the trans thoracic ultrasound was without abnormalities.

Discussion:

Cannabis is a mild drug derived from a plant (Cannabis Sativa). rapidly absorbed by the lungs with a plasma half-life of around 20 to 30 hours

The cardiovascular effects of cannabis come from sympathetic activation and the decrease in the activity of the parasympathetic system. There is an increase in the synthesis of carboxyhemoglobin and a decrease in oxygen supply therefore a mismatch between increased needs in oxygen and reduced intakes which can favor the occurrence of ACS.

Coronary spasm has also been implicated in the occurrence of ACS linked to cannabis consumption, especially that they are often patients with healthy coronaries as is the case with

our patient.

The most likely explanation is that of endothelial dysfunction induced by the consumption of cannabis with a reduction in the level of nitric oxide. It produces vasoconstriction which is potentiated by the activation, adhesion and aggregation of platelets thus releasing other vasoconstrictor agents.

The formation of intra-coronary thrombi following the consumption of cannabis was recently described with very variable coronarographic anomalies.

Conclusion:

Cannabis use should be systematically sought in young patients suffering from ACS, especially in the absence of a classic cardiovascular risk factor.

The Coronary spasm and the formation of intra-coronary thrombi seem to be the two main mechanisms involved.

#23597 : Adding lung ultrasound to standard management for patients with suspected COVID-19 presenting to the emergency department: development of a composite score for rapid respiratory decompensation (EchoVID study)

Authors:

Quentin Le Bastard (1), Christophe Perrier (2), Elise Carie (3), Christophe Berranger (4), Philippe Pes (5), Arnaud Legrand (6), François Javaudin (7), Tomislav Petrovic (8), Philippe Le Conte (9)

1. Urgences adultes, Hôtel Dieu, Nantes, France
2. Emergency Department, University Hospital, Clermont Ferrand, Clermont Ferrand, France
3. Emergency Department, Mont de Marsan Hospital, Mont de Marsan, France
4. Emergency Department, Hôpital privé du Confluent, Nantes, France
5. Urgences, Hôtel Dieu, Nantes, France
6. Clinical Research Department, University Hospital, Nantes, Nantes, France
7. Service des urgences, CHU Nantes, Nantes, France
8. Emergency Department, University Hospital, Saint Denis, Saint Denis, France
9. Urgences, CHU Nantes, Nantes, France

Keywords: Covid-19, Lung ultrasound

Abstract :

During the COVID-19 outbreak, a key-role of Emergency Department (ED) physicians is to safely discharge patients who won't require hospital admission in the next few days. For that purpose, a normal clinical exam including normal oxygen saturation in room air is required but does not rule out an early potential respiratory decompensation. Chest X-Ray has a sensitivity of only 69% in detecting COVID-19 lung involvement. Lung Ultrasound (LUS) has demonstrated better diagnosis performance than chest X-Ray. Preliminary findings of LUS in COVID-19 showed promising results for improving diagnosis [7].

The aim of our study was to develop a composite score, clinical and LUS (EchoVID), predicting rapid respiratory decompensation in patient presenting to the ED with suspected COVID-19.

Patients and methods

The WINFOCUS-France group designed an electronic anonymized database used in 10 ED in France and Belgium since March 30, the VIRUS registry (Verification of Initial Respiratory signs with UltraSound). EchoVID is the first observational cohort study extracted from this database. For each patient presenting to the ED with suspect COVID-19, clinical and LUS characteristics were registered at ED presentation and clinical follow-up at Day 2 and Day 14. This study was approved by the Nantes University Ethic Committee and registered on clinicaltrial.gov (NCT04370249).

LUS was provided by trained operators. 6 zones were identified for data gathering: upper and lower half of anterior, lateral and posterior regions in each hemithorax. We used a scoring according to previously published LUS classification: '0', no or less than 3 B-lines, '1', 3 B-lines or more, '2', multiple coalescent B-lines or '3' lung consolidation. The global score was then calculated by summarizing results obtained for each region.

Rapid respiratory decompensation was defined at day 2 and day 14 by onset or increase in oxygen requirement, need for mechanical ventilation or death.

Statistical analysis was realized with R v3.6 and included multivariate logistic regressions with variables with $p < 0.2$ in bivariate analysis.

Results

On April 23, 191 patients were included in the VIRUS registry. The sex ratio (F/M) was 1. A decompensation at D2 occurred in 26 (14% [CI95% 9-19%]) patients. In bivariate analysis, age range, body mass index, respiratory rate, oxygen saturation, qSOFA score and LUS score were significantly different between patients with or without decompensation. The area under the curve (AUC) of LUS score in ROC for a decompensation was 0.69. The logistic regression identified the following factors associated with decompensation at D2: current cancer, diarrhea, respiratory rate, oxygen saturation, qSOFA and LUS scores. The AUC in ROC was 0.91.

Discussion and conclusion

The major result was that the composite EchoVID score had better diagnosis performance than LUS score alone to predict D2 decompensation. However, these preliminary results on 191 patients need further statistical analysis to be performed on D2 and D14 decompensation occurrences. This by pursuing data gathering on VIRUS registry and EchoVID analysis in the next few months. Finally, we intend to develop and validate a algorithm in order to optimize the pathway of care, and especially to discharging safely low-risk patients.

Trial Registration / Funding Information (only) :

clinicaltrials.gov (NCT04370249)

#23598 : Acute temporo-parietal encephalopathy in heavy cannabis users: about one case

Authors:

bouhoula asma (1), Dorra Loghmari (2), sondos Laajimi (3), abir ouederni (1), khaoula rammeh (1), sourour briki (1), wissem chaouch (1), Mounir Najja (3), Naoufel Chebili (3)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: cannabis,encephalopathy,neurology

Abstract :

Acute disturbances in consciousness or behavior are relatively common grounds for pre hospital care. Among the causes to be mentioned apart from head trauma, meningo encephalitis and metabolic causes, one must think of intoxication.

Cannabis use is increasing worldwide despite the various health effects of this substance. It is the most frequently used drug in the world mainly for its euphoric and hallucinogenic effects.

Methods:

We report one case of acute hippocampal encephalopathy in heavy cannabis users (> 10 joints /day).

Results:

In 23 years old male patients, acute encephalitis was suspected. Brain MRI sequences showed evidence of symmetrical bands of signal anomalies in ribbon concerning the cerebral cortex at bilateral temporo–parietal level and semi–oval centers which appear in discrete hypo signal T2 FLAIR and diffusion with peripheral enhancement lepto meningeal.

Patients had rhabdomyolysis and inflammatory syndrome. Investigations showed no evidence of infectious or autoimmune encephalitides.

Clinical and biological acute abnormalities improved within 48 hours. New exposition to cannabis yielded a new episode of encephalopathy.

Conclusions:

Health professionals should be aware of this cannabis–related syndrome given its severe and long–lasting effects.

#23599 : Evaluating the effectiveness of a cardio pulmonary resuscitation (CPR) retrain course for Iranian nurses using Kirkpatrick model**Authors:**

Seyed Masoud Hosseini (1), Mojgan Ghiassi Ajghan (2), Hamid Reza Behnam Vashani (3)

1. Assistant Professor, Mashhad University of Medical Sciences, Mashhad, Islamic Republic of Iran

2. Nurse Director, Mashhad University of Medical Sciences, Mashhad, Islamic Republic of Iran

3. Instructor, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Islamic Republic of Iran

Keywords: In-service Training, CPR, Evaluation

Abstract :

Background: The cardio pulmonary resuscitation (CPR) skills are an important part of nurses' professional competencies. There are many evidences about the decline of knowledge and skills of nurses on CPR along time. Health systems administrators usually respond to this problem by in-service training and efficiency of these programs have been always a concern for them. Kirkpatrick has developed a model to provide a framework to lead evaluation activities on four levels as: "Reaction", "Learning", "Behavior", and "Results". "Reaction" level refers to assessment of trainees' satisfaction and their reaction on the program. "Learning" level are objective indicators of the knowledge acquired during the course. The "Behavior" level is about assessment of the skills on the job. Finally, the "Results" level is intended to seek some evidences about the impact of the program on organizational outcomes. This model may be applicable to evaluate the in-service courses in medical and other health disciplines. This study was carried out to evaluate the effectiveness of a CPR retrain course for nurses in Mashhad University of Medical Sciences (Iran) based on Kirkpatrick model in 2015.

Methods: Using stratified random sampling, 100 nurses were enrolled in a CPR retrain course in a university hospital. A variety of teaching methods as lecture, demonstration on manikins, showing video clips, and providing opportunity to exercise on manikins for participants, were applied to reach the course objectives in three days (Totally six hours). A questionnaire using rating scale was administered to assess the participants' satisfaction (Reaction level) on the quality of course. Also, the "Learning" level was assessed by comparing the mean of pre-test and post-test scores of participants. Performance of participants in real situations was assessed by trained observers using a checklist (Behavior level). And finally, the successful CPR records (Before and after the course), were analyzed as "Results" level data.

Results: Most of the participants (68.7%) rated the quality of course as "Very good" (Reaction level). As "Learning" level, the mean of post-test score of nurses was as 83.8 ± 11.9 , compared to pre-test score as 50.9 ± 15.1 . It was improved 64.6% after the course, significantly ($P \leq 0.05$). The mean performance score of the retrained nurses (Behavior level) had been improved, too (94.6 ± 7.4 compared to 88.2 ± 8.7). Finally, as "Result" level, the recorded data and field observations showed an improvement in successful CPR's in wards which the retrained nurses worked in. The successful CPRs' rate was improved from 14.37% to 22% after the course.

Discussions and Conclusions: Due to fast changes in medical guidelines, health care workers' knowledge and skills may be outdated very fast. It is a responsibility for health system administrators to evaluate the health care workers' knowledge and skills periodically and if needed, plan retraining programs on specified issues to update their competencies. Kirkpatrick model can provide a holistic view to evaluate such in-service training programs accurately and lead the evaluation activities. Especially, the third and fourth levels are more important because they are related to long term outcomes of the organization.

Trial Registration / Funding Information (only) :

This study was supported financially by the Mashhad University of Medical Sciences (Iran).

#23600 : A cross-sectional study investigating the habits of healthcare professionals regarding isolation procedures (including personal protective equipment) in a time with COVID-19

Authors:

Karina Nygaard-Kjeldal (1), Gitte Bech Garfield (1), Elisabeth Kjems Petersen (1), Anne Grethe Mølbak (1)

1. Emergency department, Zealand University Hospital, Køge, Denmark

Keywords: Personal protective equipment, PPE, isolation procedures, covid-19, hand hygiene, healthcare professionals, emergency setting

Abstract :**Background**

The importance of appropriate management of personal protective equipment (PPE) and hand hygiene has been clarified due to multiple consequences following covid-19 contamination. Several studies indicate that contamination in relation to PPE frequently occurs during removal of PPE, why this study at the moment is highly relevant. Hence the aim of this study is to test the quality of isolation procedures among healthcare professionals, regarding management (applying and removal) of PPE as well as hand hygiene.

Methods

In this cross sectional study, nurses and doctors with different age, gender and experience participated during a 3 week period in April 2020. The participants were selected randomly according to their working schedule at Zealand University Hospital Emergency Department in Koege. A premade structured checklist was performed based on national and regional guidelines and used in a Direct Observation of Procedural Skills setting (DOPS). Supervision via video Zoom links were used. Results for each participant were classified in performance categories as either correct, acceptable or insufficient based on criterias established by the researchers. The assessment was made respectively for each protective equipment, for doctors and nurses, and finally as a total judgment for the management of PPE. Conclusively all participants received individualized feedback on their performance.

Results

This study included 45 females and 27 males. The occupational groups were students, registered nurses, interns, residents and attending consultants. The results are calculated as percentages of participants in each performance category. An overall insufficient management of PPE was revealed at approximately 95% of the participants. 4% were categorized as acceptable and 1% correct. A tendency of better management was found regarding applying PPE (56%) compared to removal (93%). Even though decontamination of equipment is a pitfall in 72% cases, when excluding this step, the total evaluation remained almost unaffected. Second to decontamination of equipment, hand hygiene and removal of masks were problematic, as 60% achieved insufficient status in each of these PPE categories. In general nurses tend to perform better than doctors except for hand hygiene and masks.

Discussion & conclusions

Despite a common denominator of posters and video-material allocated to staff-members prior to the COVID-19 pandemic, qualifications among healthcare professionals differs. Adequate education is fundamental, although practical experience is needed for handling the procedures safely. A fact that maybe is reflected in the observed safer management of PPE among nurses compared with doctors. The survey was made as a simulated clinical setting, yet nothing indicates that real-life settings would be an improvement. Contamination within the healthcare system is an issue as consequences are multiple, including dissemination to patients and understaffed hospitals due to contamination of staff. The aim of this study was

to test the quality of isolation procedures among healthcare professionals, in which insufficient management of PPE and hand hygiene was observed. To achieve an adequate procedure, the educational passive focus, e.g. videos, may require a shift to a more real-life setting with individualized feedback. A prospective suggestion could be a mandatory accreditation course when hired or as an annual course.

Trial Registration / Funding Information (only) :

No patients involved / This study did not receive any specific funding.

#23601 : COVID-19 Presenting with Diabetic Ketoacidosis and Gastrointestinal Symptoms

Authors:

Natasha Daniels (1), Raiiq Ridwan (2)

1. Medical Student, University of Cambridge, Cambridge, United Kingdom

2. , Cambridge, United Kingdom

Keywords: COVID-19, diabetic ketoacidosis, atypical presentation, atypical COVID-19

Abstract :

Brief clinical history: 48 yo with poor diabetic control presented to the ED with worsening symptoms of gastrointestinal pain and vomiting. He was found to be hyperglycaemic with ketosis, and therefore a diagnosis of Diabetic Ketoacidosis was made. During the work-up for DKA, it was noticed that the patient also had lymphopaenia, and to add on top of it, there was signs of bilateral chest x-ray changes as well. Due to the high suspicion this raised during the pandemic, a nasopharyngeal swab was sent for RT-PCR. While awaiting results for the RT-PCR, the patient developed a temperature spike on the ward. Later, during the course of the infection he also developed a cough, and his COVID-19 swab test came back positive. While his DKA symptoms improved and his ketoacidosis was corrected, the patient started deteriorating from a respiratory point of view. He developed Type 1 respiratory failure and thereafter deteriorated rapidly. He was intubated and ventilated and needed to be transferred to Intensive Care. After a month of needing mechanical ventilation, he improved and was able to breathe independently again.

Misleading elements: The main misleading element was the presentation with DKA. While literature had documented that the SARS-CoV2 virus could affect diabetic control, we had not encountered any other patient who had presented in such gross ketoacidosis. Moreover, he did have symptoms of abdominal pain and vomiting, which were very consistent with a presentation of DKA, but could also have been an insidious presentation of COVID-19. Moreover, there was no documented fever, cough or other viral symptoms prior to admission

Helpful Details: The main helpful details were in the investigations. Lymphopaenia had been documented as a non-specific but quite prevalent (>80%) investigative finding in COVID-19 infection. Moreover, the CXR findings were very suggestive of a viral pneumonia picture and thus was helpful in guiding towards the diagnosis of COVID-19

Differential diagnosis: Diabetic Ketoacidosis, Acute Pancreatitis,

Atypical presentation of COVID-19

Actual Diagnosis: COVID-19 along with DKA

Educational and Clinical Relevance: This case is a lesson in keeping a very low threshold for consideration of COVID-19 during the pandemic, as multiple patients who were asymptomatic or showing atypical symptoms later turned out to have COVID-19. Moreover, in an epidemic scenario, it is important to consider the presence of the epidemic condition in any patient who is acutely unwell. This is also an important indication that COVID-19 may upset the glycaemic balance in patients, especially in those who already have diabetes.

#23604 : Infection Prevention and Control in German Emergency Departments - Results of a cross-sectional study on structural indicators**Authors:**

Martin Pin (1), Rajan Somasundaram (2), Christian Wrede (3), Petra Gastmeier (4), Frank Schwab (4), Sonja Hansen (4)

1. Department of Emergency Medicine, Florence-Nightingale-Hospital, Düsseldorf, Germany
2. Department of Emergency Medicine, Charité – Universitätsmedizin Berlin, Campus Benjamin Franklin, Berlin, Germany
3. Department of Emergency Medicine, Helios Hospital Berlin-Buch, Berlin, Germany
4. Institute of Hygiene and Environmental Medicine, Charité – Universitätsmedizin Berlin, Berlin, Germany

Abstract :**Background**

More than 20 million patients are treated in German Emergency Departments (ED) per year. Crowding, time pressure and patients' unknown microorganism carrier status imply the risk of pathogens' transmission and healthcare-associated infections (HCAI) in vulnerable patients but infection prevention and control (IPC) measures are not always fully implemented. A sufficient IPC infrastructure supports the implementation of basic IPC measures in the daily routine and in case of fulminating epidemic spreads of emerging pathogens to guarantee health care workers' (HCW) and patients' safety. To what extent requirements for basic IPC measures exist in German EDs was investigated by a survey. Factors that are associated with regular hand hygiene training and auditing were analysed.

Methods

Structural aspects of IPC were surveyed with an online questionnaire within the German Association for Emergency Medicine DGINA (Deutsche Gesellschaft interdisziplinäre Notfall- und Akutmedizin e.V) in 2018. In a convenience sample, leading ED physicians anonymously replied to questions regarding organizational characteristics and requirements for IPC. Data were analysed descriptively. A multivariable logistic regression analysis was performed to identify supporting factors for the outcome "Knowledgeable management of hand hygiene improvement" defined as regular hand hygiene training and auditing at least once a year. All analyses were performed using SPSS (IBM SPSS statistics, Somers, NY, USA) and SAS (SAS Institute, Cary, NC, USA).

Results

Of 354 invited EDs 66 participated in the survey (response rate 19%). Participating EDs had in median [interquartile range (IQR)] 30,900 (23,000; 40,000) patient visits in 2017 and were predominantly affiliated to hospitals with 400 – 799 beds (47 %). Specific ED based IPC link nurses with precise IPC responsibilities were available in 83 %, correspondent IPC link physicians in 61 %. Availability of IPC link physicians varied significantly with hospital size and level of emergency care ($P < 0.05$). The majority (89 %) reported accessibility of alcohol-based handrub (ABHR) at every treatment place. Consumption of ABHR was under surveillance by 73 %. The WHO model "The 5 indications of hand disinfection" was part of local IPC guidelines in 83%, regular hand hygiene training for HCW was offered by 67%. Hand hygiene compliance observations were carried out regularly at least once a year in 39%. In the multivariable analysis, only the surveillance of ABHR was associated with good hand hygiene management (OR= 3.889; 95%CI=0.994-15.220). The factors "WHO model available in guidelines" and "ABHR accessible at every treatment place" were not estimable in our model since they were all present in the 24 EDs that reported the outcome's criteria. The presence of local IPC link personnel was not associated with outcome.

Conclusions

This first survey on IPC requirements in German EDs reveals the awareness of the necessity for IPC among German ED physicians. Obviously, there is a need for more IPC training and control of adherence. Furthermore, IPC training and audits in the ED demand more evaluation.

#23605 : The Effect of Quick Cause Septic Diagnosis on Time to Clinical Response in Sepsis Suspected Patients ; modified SIRS criteria**Authors:**

DAIHAI CHOI (1), Kyeongim HA (2)

1. Emergency Dept. Disaster Dept., Dongguk University, School of Medicine, Gumi, Korea, Republic of
2. Laboratory Medicine, Dongguk University, School of Medicine, Gyeongju, Korea, Republic of

Keywords: SIRS, BCID

Abstract :

Purpose. In this field trial of rapid blood culture identification (BCID), we aimed to determine whether the Effect of Quick Cause Septic Diagnosis on Time to Clinical Response in Sepsis Suspected Patients according to modified SIRS criteria.

Methods.

We trained local hospital laboratory staff to operate the FilmArray equipment and act on the results. modified sepsis criteria was created by discussion by medical specialists and applied to patients to access clinical usage.

Results.

Of 100 positive blood culture episodes, BCID FilmArray results were correct in all significant bacterial cultures, with a fully predictive identity in 95% and a partial identity in another 5%. We found that almost clinically significant mono- and polymicrobial culture results were fully predictive of culturebased identification to bacterial species level at a mean of 25 hours after specimen collection.

Conclusions. There was a reduction of 3days in the time taken to produce a definitive BCID compared to the previous year, translating into earlier communication of more specific blood culture results to the treating physician. Reduced time to definitive blood culture results has a direct benefit for isolated local korea communities at great distances from specialist hospital services.

#23606 : A systematic review on the need of anticoagulant therapy in subsegmental pulmonary embolism**Authors:**

Larshan Perinpam (1), Anders Moellekaer (1), Poul Petersen (1), Tommy Andersson (1), Anna-Marie Bloch Münster (2)

1. Emergency Department Herning, Regional Hospital West, Denmark, Herning, Denmark

2. Department of Clinical Biochemistry, Esbjerg Central Hospital, Esbjerg, Denmark

Keywords: SSPE, ISSPE, Subsegmental Pulmonal Embolism, Anticoagulant therapy, Systematic review, withholding anticoagulant therapy, major bleed, VTE, venous thromboembolism,

Abstract :

Background: The use of multirow detector computer tomography pulmonary angiography (CTPA) has increased the number of diagnosed subsegmental pulmonary embolism (SSPE). It is unknown if SSPE require the same treatment with anticoagulation therapy (AC) due to venous thromboembolic (VTE) recurrences, as acute pulmonary embolisms (PE). AC therapy carries the risk of major bleeding. Thus, it is important to know if patients with an SSPE requires AC therapy. The purpose of this systematic review is to investigate if it is safe to withhold AC therapy in hemodynamically stable patients diagnosed with an unprovoked SSPE.

Methods: We conducted a systematic literature review, based on the PRISMA guidelines using the Pub.Med, Ovid Medline and Embase databases. Combined search using text strings: Subsegmental, SSPE, Pulmonary embolism, pulmonary thromboembolism, subsegmental PE, subsegmental thromboembolic disease, CT angiography, anticoagulant* was done. We further added several Medical Subject Headings to the search string. The search was conducted between January 1981 – April 2020. In addition, we conducted a snowball search by screening the title of the paper through all the references in the individual paper and then including the paper that seem to fulfill our inclusion criteria's until no new references regarding our topic were to be found.

We included: 1) Studies investigating the outcome of patients diagnosed with SSPE who did/didn't receive therapy. 2) Only original studies included. 3) Studies that clearly defined SSPE. 4) Patients included in the study were ≥ 18 years of age. 5) The patients were hemodynamically stable. 6) No DVT. We excluded 1) Case reports or abstracts. 2) Studies investigate PEs based on an underlying factor (e.g. cancer, former history of PE or DVT, pregnancy, anticonception, thrombophilia). 3) Papers written in another language than: English, Danish, Swedish, Norwegian, German and French. All systematic reviews regarding SSPE and AC-therapy were excluded post snowball search due to duplication of patients already included in original studies in our review. The Selection of papers was performed by reviewing titles, abstracts and full texts.

Results: 415 papers were identified. 82 removed due to duplication. 333 title and abstracts were screened. 37 papers were read in full (28 where systematic reviews). Snowball search identified one additional paper. 28 systematic reviews excluded leaving 10 papers for the final group discussion. Post group discussion and further analysis consisted of 6 papers. The 6 studies identified a total of 366 patients with SSPE. 123 patients did not receive any AC therapy. Among the 123 patients who did not receive AC therapy there were 0 VTE recurrence, 0 major bleeding, 0 VTE related mortality within 3 months follow-up.

Discussion & Conclusion: In our study the literature is limited, sample size small, 5 out of 6 studies are retrospective. All studies with total of 123 pts. who didn't receive AC-therapy show 0 VTE recurrence, 0 major bleeding, 0 VTE related deaths within 3 months. Our review of the available literature till as of April 2020, shows that it is safe to withhold AC therapy in patients with single SSPE and no DVT.

#23607 : Concomitant spontaneous dissection of the coronary artery and internal carotid artery in a young man : a case report

Authors:

hicheri yassine (1), Dorra Loghmari (2), Rabea Mbarek (3), faten bennahia (1), Chrifa Aouini (4), nejeh Chebili (1), Mounir Naija (4), Naoufel Chebili (4)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, SOUSSE, Tunisia
4. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: coronary artery ,dissection,internal artery

Abstract :**Introduction :**

Spontaneous coronary artery dissection (SCAD) is a rare cause of acute coronary syndrome (ACS); its prevalence is less than 3%. It occurs mainly in young people, particularly women and individuals with few conventional atherosclerotic risk factors. Its association with a dissection of the internal carotid artery is more exceptional. We report the case of a 34-year-old young man who presents both a spontaneous dissection of the coronary artery and the internal carotid artery without dissection of the aorta.

Observation :

A 34-year-old patient, known with type I diabetes brought back by his parents for alteration of the state of consciousness with obtundation without chest pain. The family did not report the notion of toxic consumption. The clinical examination finds a GCS at 10/15 with doubt on a right hemiparesis. The patient was hemodynamically and respiratory stable with an initial capillary blood glucose at 3.41g/dl. The ECG objectified an inferior and anterior ST segment elevation. The troponins returned positive at 1343 ng / l. The diagnosis of STEMI was initially retained and the patient received anti-thrombotic treatment. Fibrinolytic therapy was not indicated. The patient continued to deteriorate neurologically with installation of a total right hemiplegia and aphasia. The CT scan objectified a left ischemic stroke in the junctional territory secondary to a dissection of the left internal carotid artery confirmed by the angiography. However, the aortic angiography was without abnormalities. Coronary angiography at H 48 showed thrombotic dissection of the anterior interventricular artery (IVA). The anticoagulant therapy was not initiated. The evolution was marked by the persistence of ST segment elevation without myocardial necrosis despite an ascent of the troponins (2000ng / l). The left ventricular ejection fraction was kept at 60%. However, the control CT scan identified a second focus of cerebral ischemia. The patient was hospitalized in the cardiology department and secondarily put on curative anticoagulation.

Conclusion :

The concomitant occurrence of the spontaneous internal carotid artery and the coronary artery dissection with intact aorta is a rare or even exceptional entity. Outside the context of post partum, taking toxic or post-traumatic forms giving rise to an isolated dissection of the coronary

artery, this association can evoke a congenital pathology of the vessels such as Marfan's disease or Ehlers-Danlos syndrome. The management is complex and must be collegial.

#23610 : Characteristics of night calls to the medical regulation centre

Authors:

sondos Laajimi (1), sarra sassi (2), Dorra Loghmari (3), ayachi Ilahi (4), Chrifa Benchikh (4), Sami Ben Ahmed (1), el echi israr (5), Mounir Naija (1), Naoufel Chebili (1)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia
2. , sahloul university hospital,sousse Tunisia, sousse, Tunisia
3. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia
5. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia

Keywords: epidemiology, night calls,medical regulation

Abstract :**Introduction:**

Medical regulation has a growing place in pre-hospital emergency management. The calls for medical regulation differ according to the season, time, parties and other characteristics.

Purpose: identify the characteristics of nocturnal calls and their implications in the practice and performance of the regulating physician. Our study is descriptive taking place over 2 months September and October 2019.

Results:

During the 2-month period 200 night calls were recorded between midnight and 8am .The majority of night calls took place from midnight to 4am at a percentage of 55.5% against 44.5% from 4am to 8am .

The caller was an individual in 42.5%, a doctor in a regional hospital in 25% of cases, a doctor in a university hospital in 14.5% of cases and the national guard participated in 0.5% of cases .

The caller 's location was in a hospital in the majority of cases (49%).

The most common night call reason was altered state of consciousness in 22% of cases, followed by chest pain in 17% of cases, respiratory dyspnea type symptomatology was expressed in 16,5% of calls, while trauma was less frequent at 12.5%. A secondary mission request was announced in 8.5% of calls, however intoxications were the least expressed reasons at night (0.5%).

The regulatory doctor's decision was: Sending an emergency team was the most pronounced decision at this time (61%), the doctor gave telephone advice in 14.5% of cases, the decision to hire a type B ambulance was not exceptional either (10.5%) , the decision to refer the patient to the emergency room on his own was considered in 8% of cases; a lack of resources was unfortunately noted in 1.5% of cases.

The clinical examination done by the intervention physician finds:

At neurological examination a Glasgow of 13-15 was found in 80.7% of cases

the patients were eupneic, non tachycardic and not hypoxic in the majority of cases.

The electrocardiogram, when performed, detected mainly coronary syndrome is more and this in 22.5% of cases.

The diagnosis retained was a death in the first place, followed by head trauma, followed by coronary syndrome is more then coronary syndrome is more and a surge of abortion, other diagnoses are more rare .

At the time of the intervention of the emergency team, the patient was transferred to the emergency department in 44% of cases, left on site in 23.2% of cases, died in 12% of cases, transferred to resuscitation in 4.8% of cases and cardiology in 4% of cases.

Conclusion:

Our study, despite its time limits, was able to focus on the main pathologies and diagnoses that could be encountered at these nocturnal hours and was thus able to emphasize the role of the regulating physician to make a logical decision and guide the patient .

#23611 : suPAR and Early Warning Score are early predictors of respiratory failure in COVID-19 patients

Authors:

Izzet Altintas (1), Jesper Eugen-Olsen (1), Tingleff Jens (1), Gamst-Jensen Hejdi (1), Mette B Lindstrøm (1), Kristiansen Klaus T (1), Rasmussen Christian (1), Thomas Kallelose (1), Ove Andersen (1)

1. , Copenhagen University Hospital Hvidovre, Hvidovre, Denmark

Keywords: Prognosis, COVID-19, respiratory failure, suPAR

Abstract :

Background. Clinical and laboratory markers of possible disease progression are needed to differentiate between patients who can be discharged promptly and those who will develop a more severe COVID-19 progression. We investigated whether baseline clinical signs, suPAR, and routine biomarkers in patients with COVID-19 can predict if a patient develops respiratory failure and need of ventilator support during a 14-days of follow-up.

Methods. A single centre prospective cohort-study carried out at Copenhagen University Hospital Hvidovre, Denmark including patients presenting with symptoms of COVID-19 in the period of 19th of March until 3rd of April and with follow-up until 17th of April 2020. SARS-CoV-2 testing was carried out using a RealStar® SARS-CoV-2 RT-PCR Kit RUO from Altona Diagnostics (Hamburg, Germany) on material obtained from respiratory tract specimens. The assay had a limit of detection of 50 copies of RNA. Routine biomarkers (Dif. Cell counts, hemoglobin, creatinine, creatinine kinase, C-reactive protein (CRP), Aminotransferase, Lactate dehydrogenase, and bilirubin) were measured on a Roche 8000 platform. Soluble urokinase plasminogen activator receptor (suPAR) was measured using a Point-of-care test which allows quantitative results within 25 minutes after blood drawing (suPARnostic QT, ViroGates, Denmark). Data are shown as N (%) or median (interquartile range, IQR). Area under the curve (AUC) and 95% Confidence intervals (CI) were calculated using C-statistics. The endpoint was respiratory failure defined as patients intubated and mechanically ventilated. The statistical program R version 3.6.0 (R Foundation for Statistical Computing, Vienna, Austria) was used for statistical analysis.

Results. 405 patients with COVID-19 symptoms were tested for SARS-CoV-2, and 117 tested positive and were included in the present study. Mean age was 71 years and 68 (58%) were female. Median duration of symptoms were 5 days (IQR: 2-7) before admission to the ED. At admission, Early Warning Score was 3 (1-5), suPAR 5.3 (4.0-7.7) ng/ml and CRP 44 (18-99) ug/ml.

A total of 87 patients (74%) were deemed eligible to receive intensive care treatment if needed whereas 30 were not due to frailty. During follow-up, 25 (29%) of the 87 patients developed respiratory failure. Strong baseline predictors of respiratory failure were suPAR with an AUC of 0.86 (CI95%:0.79-0.94), EWS 0.82 (0.72-0.91), lactate 0.81 (0.69-0.92) and CRP 0.78 (0.68-0.88). Other baseline parameters including age, cell counts, and other routine biomarkers had AUC of 0.63 or lower.

Discussion and conclusions

In patients presenting at the Emergency Department with symptoms of COVID-19 and tested positive for SARS-CoV-2, approximately one third developed respiratory failure and were intubated and ventilated during the 14 days follow-up. We identified baseline suPAR values as a strong predictor of respiratory failure during follow-up, suggesting that suPAR can aid in the decision of discharging (low suPAR) or admission (high suPAR) of patients with COVID-19.

Trial Registration / Funding Information (only) :

Funding: The study did not receive any specific funding. Ethical approval and informed consent. The study was approved by the hospital review process (AHH_COVID19_SuPAR_240320).

#23612 : Comparison of R-CAT and conventional method for EKG interpretation in medical student

Authors:

Jirayoot Patchkrua (1), Supreeya Prasad Adhikari (1), Paijit Bunta (1), Chaiyaporn Yuksen (2), Chetsadakon Jenpanitpong (1), Kasamon Aramvanitch (1)

1. Department of Emergency Medicine, Faculty of Ramathibodi Hospital, Mahidol University , Bangkok, Thailand
2. Department of Emergency Medicine, Faculty of Ramathibodi Hospital, Bangkok , Thailand

Keywords: R-CAT (Rapid-Cardiac Analysis Tool), ECG interpretation, medical student

Abstract :

Background: Acute myocardial infarction (AMI) is a major cause of death worldwide. 12-Lead electrocardiogram (ECG) is an important tool for AMI diagnosis. However, the accuracy of ECG interpretation depends on experience. Rapid-Cardiac Analysis Tool (R-CAT) is a new device that assists healthcare providers to interpret an ECG. This study aimed to compare the accuracy between using R-CAT and conventional interpretation method among medical students.

Method: A randomised experimental study was conducted on 40 participants, including 6th year medical students and residents in emergency medicine. Participants had to interpret six ECG questions by using R-CAT and conventional method randomly. The outcome parameters included the total correct scores and total time.

Results: The mean score for ST-elevation myocardial infarction (STEMI) and non-STEMI ECG interpretation was higher in R-CAT: 2.75 ± 1.25 vs 2.00 ± 1.03 of 5 (p-value 0.045) and 2.80 ± 1.40 vs 2.2 ± 1.25 of 5 (p-value 0.072), respectively. Moreover, the use of R-CAT can help medical students to correctly interpret an ECG, similar to emergency medicine residents who performed diagnosis by conventional method (9.2 ± 2.45 and 9.80 ± 2.94 of 10, respectively; p-value 0.567).

Conclusion: R-CAT can help medical students to correctly interpret the ECG of patients with suspected AMI, similar to emergency medicine residents.

#23613 : Doctor, someone is stealing my memory

Authors:

Masa Petricevic (1), Waqar Shah (2)

1. Emergency Medicine Trainee, Royal College of Surgeons in Ireland, Dublin, Ireland
2. Consultant in Emergency Medicine, Tullamore Regional Hospital, Tullamore, Ireland

Keywords: amnesia, disorientation, stroke

Abstract :

Introduction: Transient Global Amnesia (TGA) remains the diagnosis of exclusion. By definition it is characterised by a sudden, but temporary loss of short-term memory and not being able to form new memories. For emergency physician it is a challenging and frightening presentation and all sinister causes have to be excluded.

Case Report: We are presenting a case of a 54 year old man who self presented to Emergency Department with his brother in attendance. Patients co-workers called next of kin concerned that they are witnessing very disturbing behaviour. Collateral history by his colleagues was significant for sudden episode of memory loss, repetitive questions, complete disorientation to the place and time. He had medical history significant for hypertension, hypercholesterolaemia and mild obesity. His medication are as follows: Ramipril 5mg and Atorvastatin 40mg. Vital signs in triage room were within normal range with slightly elevated systolic blood pressure to 150. Level of consciousness was unchanged and was completely normal. Full neurological examination was normal except anterograde amnesia (repetitive questions, disorientation to the time, disorientation to the person he met after the event, but was able to recognise his family members). ECG showed normal sinus rhythm. As patient had risk factors for cardiovascular event, primary differential diagnosis was stroke. Urgent non-contrast CT scan was organised and stroke team was contacted. Blood tests were obtained and were in normal range. Glucose level was normal and toxicology was negative for any substance abuse. CT scan was reported as normal. In further discussion with stroke team there was no evidence of acute stroke, hence no indication for thrombolysis. Recommendation was to admit the patient under Medical team and organise MRI in following hours. MRI did not show any abnormalities and after 20 hours patient had complete recovery of cognitive function.

Discussion: Although rare, transient global amnesia is extremely challenging diagnosis. It still remain a question if it's safe to diagnose TGA in Emergency Department settings. Main recommendations are to rule out all possible differential diagnosis, especially those requiring prompt and urgent treatment.

#23615 : INSIDE OUT: When the air isn't where it should. A real case report about a misdiagnosis subcutaneous emphysema

Authors:

Güendolina Fernández Fernández (1), Guillermo Moreno Montes (1), Lidia Rocio Ortega Martin (1), Estibaliz Fonseca Castresana (1), Alba Llario Angel (1), Irene Ruiz Miñano (1), Martha Rivas Palomo (1)

1. Emergency Room, Hospital Universitario de Torrevieja, Torrevieja, Alicante, Spain

Keywords: subcutaneous emphysema, pneumothorax

Abstract :

INTRODUCTION:

Subcutaneous emphysema (SE) is the infiltration of air in the subcutaneous tissues which should be detected clinically by swelling of the affected area and crepitus on palpation..

The causes of SE are numerous and diverse, so diagnose can be challenging. Normally, it is a self-limiting condition, but occasionally it can be associated with life threatening pathologies.

BRIEF CLINICAL HISTORY:

A 79 years old woman arrives to the Emergency Room (ER) with a massive subcutaneous emphysema. In her medical history was only relevant hypertension and COPD, in treatment with ramipril 5mg and budesonide/formoterol 80/4.5 micrograms.

Few hours before, she came to the same hospital after falling in the bathroom. She was discharged after been diagnosed multiple rib fractures with painkiller prescription (dexketoprofeno 25mg). Later, after taking the medication, she started feeling "bloated", so she called 112. The ambulance physician thought she was having an angioedema, so he gives her hydrocortisone 200mg with no improvement.

At the arrival in the ER we started with respiratory assessment with oxygen and monitoring: BP: 150/80, heart rate 100lpm, oxygen saturation 79%. The airway was clear, with no signal of obstruction. She was conscious with dyspnea. After stabilizing, we realized she had an extensive SE in thorax, neck and face with crepitus on palpation. In the cardiorespiratory auscultation, absence of murmur vesicular in the left, was heard with abundant wheezing.

MISLEADING ELEMENTS

We reviewed the previous chest radiography: displaced fractures in the left posterior ribs arches of the 5-10th and the 11th nondisplaced. No pneumothorax or pneumomediastinum

The EKG and the blood text were normal.

In addition, we ordered thorax CT scan

- Extensive subcutaneous emphysema in the anterior and posterior thorax, that extends to the cervical area
- Pneumomediastinum that extend to the abdomen
- Anterior and superior left pneumothorax 3cm
- Left pleural effusion 8 mm suggestive of hemothorax
- Fractures described

DIFFERENTIAL DIAGNOSIS

Angioedema, anaphylaxis, esophageal rupture, pneumothorax, tracheal/bowel/diaphragm perforation, and necrotizing infections.

DIAGNOSIS: SUBCUTANEOUS EMPHYSEMA SECONDARY TO A TRAUMATIC PNEUMOTHORAX

CONCLUSION

Finally, it was clear that the swelling wasn't an angioedema but SE. The presentation with acute facial swelling and dysnea together with the use of dexketoprofeno was suggestive of angioedema. In a few case reports, SE has been mistaken for allergic reactions and angioedema. The difference between the two as SE demonstrates lip sparing. Anafilaxia is more common condition that with a simple treatment can be solved.

Once we arrive to the real diagnosis, we investigated other life-threatening conditions. **According to history, pneumothorax was our first option.** With a small pneumothorax, air tends to accumulate in the antero-basal pleural space. This time of presentation is known as "Occult

pneumothorax", and it has an incidence of between 2-12% . In those cases, it is missed on the initial supine radiography.

To end with, this case has two unusual clinical presentation of a common condition. A pneumothorax can be lethal and it need intensive care. Luckily, our patient was admitted on time, so cardiothoracic surgeon place a thoracic drain and she survived.

Attachment: When the air isn't where it should.pdf

Authors:

Dorra Loghmari (1), bouhoula asma (2), Saoussen Bargui (3), sondos Laajimi (4), ELECHI ANSAR (2), Farrouk Douma (4), Mounir Naija (4), Naoufel Chebili (4)

1. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
2. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
3. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia
4. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: pregnancy,STEMI

Abstract :Introduction :

The incidence of acute myocardial infarction (AMI) in pregnancy ranges from 3 to 100 per 100 000 deliveries.¹ The maternal case fatality is as high as 11%, with an associated fetal mortality of 9%.

In fact , the majority of cases of AMI in the general population are due to coronary thrombosis associated with a disrupted atherosclerotic plaque.

One of the proposed pathologic processes in pregnancy is the excess progesterone leading to degeneration of the connective tissue in the intima and media of the coronary arteries.

Cardiac disease is the single most common cause of maternal death . Myocardial infarction in pregnancy is a devastating event for mother and baby and is a management challenge for clinicians.

Our case report describe a disfavorable evolution of pregnant women diagnosis a STEMI.

Observation

A 39-year-old lady in the second trimester of pregnancy (19 AW) presented to the emergency department having suffered a stomach pain and vomiting .

A 12-lead ECG showed circumferential ST elevation myocardial infarction.

The patient was loaded with aspirin, clopidogrel and heparin .

She was therefore trasferres with emergency medical service to cardiac centre for emergency coronary angiography .

In the exam , She was found to be in ventricular tachycardia with pulses requiring a 150J direct current cardioversion than ventricular tachycardia without pulses and died after that.

The Cardiopulmonary resuscitation had been started for 45 minutes without recovery .

-

Conclusion :

Acute myocardial infarction (AMI) during pregnancy or the early postpartum period is rare, but can be devastating for both the mother and the fetus. There have been major advances in the diagnosis and treatment of acute coronary syndromes in the general population, but there is little consensus on the approach to diagnosis and treatment of pregnant women.

#23619 : Use of Clinical Frailty Scale in Adult patients aged>65 in Emergency Department with Suspected Covid-19**Authors:**

Arjun Thaur (1), Nigel Beckett (2)

1. Emergency Medicine, Guy's and St. Thomas' NHS Foundation Trust, LONDON, United Kingdom

2. Consultant Physician in Ageing and Health, Guy's and St. Thomas' NHS Foundation Trust, London, United Kingdom

Abstract :

Background: NICE published guidance on management of Covid-19 patients in March 2020 [1]. It highlighted the importance of identifying frailty in all adult patients admitted with Covid-19. The Rockwood Clinical Frailty Scale has been extensively validated to identify frailty in over 65s. However, it hasn't been used to identify frailty in under 65s, patients with long term conditions and learning disabilities. In order to get the Emergency Department compliant with the published NICE guidance, we introduced Clinical Frailty Scale (CFS) as a frailty screening tool. The medical staff were trained to use clinical frailty scale by online training module, which is widely accepted by British Geriatric Society [2]. The design, implementation and training of the Rockwood Clinical Frailty Scale was led by an Emergency Medicine Consultant with sub-specialty interest in Geriatric Emergency Medicine. The frailty screening was embedded into the electronic database 'Symphony' used in Emergency Department.

Patients & Methods :

Retrospective analysis of patient's records with suspected diagnosis of covid-19, who were over 65-years old.

Data collection:

The Emergency Department was divided into Covid and Non-Covid areas. Patients aged>65 who attended the Covid areas were included for Week 1 and Week 2.

Results & discussion :

The week 1 showed a compliance of 45% in recording clinical frailty scale in all admitted patients over 65 with suspected Covid-19. This was followed by intensive training that consisted of adhoc training sessions on the shop-floor, during the induction of re-deployed staff from other areas of the hospital and on morning handovers as part of Covid bulletin. Posters were put around various areas in the Emergency Department. All staff working in the department were advised to do the online training module on clinical frailty scale and record CFS electronically.

The week 2 audit was done after a week of continued training. This showed an improved compliance of 69% in recording clinical frailty scale in all admitted patients over 65 with suspected Covid-19.

Conclusion & perspectives :

Clinical frailty scale is very beneficial in identifying frailty in patients over 65. Utilising a systematic approach, adhoc training sessions and cyclical audits we have shown that a robust system can be introduced with convincing results to identify frailty in patients presenting to Emergency Departments. Going ahead, we plan to audit the quality of frailty screening being recorded and continue to screen frailty in all patients irrespective of their Covid status.

Acknowledgement :

1. NICE guidelines: Covid-19 rapid guideline- critical care in adults
1. <https://rise.articulate.com/share/deb4rT02lvONbq4AfcMNRUudcd6QMts3#/> - Training module on Clinical Frailty Scale

#23621 : How to improve Infection Prevention and Control in Emergency Medicine - A single centre experience**Authors:**

Sonja Hansen (1), Bernd A. Leidel (2), Birgit Liehr (2), Thorsten Jeske (1), Manja Weisker (1), Petra Gastmeier (1), Rajan Somasundaram (2)

1. Institute of Hygiene and Environmental Medicine, Charité – Universitätsmedizin Berlin, Berlin, Germany
2. Department of Emergency Medicine, Charité – Universitätsmedizin Berlin, Campus Benjamin Franklin, Berlin, Germany

Abstract :**Background**

The containment of pathogens' spread and the reduction of healthcare-associated infections require sufficient infection prevention and control (IPC) measures in healthcare. So far, IPC activities have been mainly focusing on inpatients and invasive procedures rather than on emergency care. In addition, multiple barriers have been reported for an effective IPC implementation in this setting. In order to translate evidence into practice and to probably strengthening IPC competencies, a multimodal strategy for hand hygiene (HH) compliance improvement was realized over a 24-month period.

Methods

The project was conducted in an ED in a tertiary care hospital with 50,000 annual visits as a prospective before-and-after study between 01/2018 and 12/2019.

The intervention was created in accordance with the WHO recommendations for multimodal strategies (Storr, 2017) and the following components were added to already existing education activities: a.) system change, b.) monitoring of practices, c.) improved communication and d.) culture change by fostering a safety climate. A focus was put on monthly monitoring ED physicians' and nurses' (so called "core team") HH compliance and affiliated immediate and monthly structured interdisciplinary participatory feedback. HH compliance observations were performed by two experienced IPC nurses according to WHO's 5 indications of HH and WHO's compliance monitoring methods. Compliance was determined by dividing the number of observed indicated HH actions performed by the total number of observed HH opportunities (HHO). Data were presented and discussed during monthly feedback meetings guided by leading medical and nursing staff.

Results

Firstly, the total number of alcohol dispensers was increased to 75 to assure availability of hand rub at every treatment place and important locations for aseptic procedures ("system change"). Furthermore 3,801 HHOs were observed (nurses: 2,412; physicians: 1,389) in 20 observation periods with 193 HHOs / observation period in median. Data on HH compliance and concrete measures for further improvement were discussed and concretized during 20 feedback meetings with in median 10 participants.

Baseline HH compliance was 40 % (nurses: 44 %; physicians: 42%) in general and 22 % for WHO indication 2 (before clean / aseptic procedure). General HH compliance raised steadily to 77 % in month 24 (nurses: 86 %; physicians: 62 %) with a percentage of 90 % for WHO indication 2. Concluding evaluation forms of participants indicated high acceptance of the project.

Conclusions

Data on HH improvement reveal that raising awareness for IPC and changing of behavior is achievable in EDs. Further studies are needed to analyze concrete factors that support sustainability of improved IPC performance.

Authors:

Edlira Harizi (Shemsi) (1), Kledisa Shemsi (2), Ferid Domi (3)

1. Neurology, Regional Hospital Durres, Durres, Albania
2. Medical practitioner Emergency Division SRD, University of Medicine Tirana, Tirane, Albania
3. Emergency Division SRD, Regional Hospital Durres, Durres, Albania

Keywords: Epilepsy, Emergency, Alcohol, Hospital Durres

Abstract :

Alcohol abuse and its consequences related seizures are Well known in experimental and clinical data. The best Recognized seizures are “alcohol withdrawal seizures” Specific epileptogenesis may underlie seizure unrelated to withdrawal and in this context involves several mechanisms including alterations of excitation/inhibition systems and kindling like effect. Patients presenting with seizures unrelated to any cause other than alcohol are classified in several successive stages of “alcoholic epilepsy”, as solitary and chronic seizure. Epidemiological data have shown that 4 to 7% alcoholics have seizures. There are several possible contexts in which seizures can occur in chronic alcoholics, hypoglycemia, hyponatremia, hepatic en-cephalopathy, thiamine deficient, head trauma cerebral atrophy ,etc.

Methodology: We have data for 41 patients recovered with diagnoses of epileptic seizure in the emergency division in Regional Hospital Durres Albania in the years 2016 – 2019. Mean age of patients 44.4 years old. 37 are male and 4 are female. The types of seizures observed Generalized tonic-clonic 52%, status epileptic 11%, simple partial seizures 6%, simple complex seizures 5 %, 26% un classification seizures. Two causes (female) had the first time of alcohol abuse. The mean times of alcohol abuse for the males were 16.5 years and 2 females 11 years

Conclusion: In our opinion the classifications of time abuse and the type of seizures can help for drug choice anti-epileptic treatment but, alcoholic epilepsy we think is an epileptic syndrome whose particularity is in the fact that it is potentially reversible and the therapy can be stopped in cases of free seizures for a long time.

#23623 : Wellbeing in an Emergency Department in Denmark

Authors:

Rampika Thevapalan (1), Larshan Perinpam (1), Poul Petersen (1), Tommy Andersson (1), Anders Moellekaer (1)

1. Emergency Department Herning, Regional Hospital West, Herning, Denmark

Keywords: Wellbeing, ED, Occupational Stress, Emergency Department, Denmark, working hours, physician groups, general medicine, EM residents

Abstract :

Background: The emergency department (ED) is often seen as a stressful work environment with high pressure and workload, because emergency medicine (EM) physicians are exposed to several work-related stress factors. The purpose of this study is to identify factors that affect different physician groups in the ED on well-being.

Methods: This study was conducted at Regional Hospital Herning in the ED with more than 40.000 ED visits annually. The ED has five different groups of physicians: Junior physicians, general medicine (GM) residents (both 6 months ED rotation), pre-residents in EM (1 year ED rotation), EM residents, (1,5 year ED rotation), and EM consultants. A questionnaire covering several questions within topics of "my work situation", "my development", "my work satisfaction", "my department" and "my leader" was distributed to all ED physicians via email. The questionnaire contained 38 statements regarding employee well-being. The statements were selected based on a review of the literature on factors that affect employee well-being in the ED. Using a Likert scale score (LSS) the physicians were asked to rate the statements with 1 being "Strongly agree" and 5 being "Strongly disagree". The standard deviation (SD) was calculated.

Results: 37 questionnaires were returned. 3 were excluded because of failure to complete questionnaire. The overall response rate was (34/45) 76%. The response rate among junior physicians was (17/20) 85%, GM residents (5/6) 83%, pre-residents in EM (1/3) 33%, EM residents (4/4) 100% and EM consultants (7/10) 70%. Because of low representation for the pre-residents in EM (1/3) 33%, this questionnaire was excluded from the analysis. Selected results from the study showed an important well-being factor identified in the literature review with the statement "I'm experiencing stress, which makes me uncomfortable" had an overall department LSS 3,26 (SD 1,08) with EM residents LSS 4 (SD 0,82) and GM residents LSS 2,80 (SD 0,84) which support low wellbeing among GM residents compared to EM residents. Another well-being factor is "I'm satisfied with my working hours" had an overall department LSS 3,00 (SD 1,23) with EM consultants LSS 2,25 (SD 1,04) and GM residents LSS 4,00 (SD 1,22) that support low wellbeing with GM residents compared to EM consultant. Lastly to the well-being statement "I have an appropriate influence on my work" had an overall department LSS 2,68 (SD 1,20) where EM residents LSS 1,50 (SD 0,58) and GM residents LSS 4,20 (SD 0,84) this also supports low wellbeing among GM residents compared to EM residents.

Discussion & Conclusion:

This study was initiated based the assumption of a bad working environment among the junior physicians. The study showed that it is residents in general medicine who were highly dissatisfied on several issues (working hours, stress at work, no influence on work etc.) compared to the rest of the department. Residents in GM have already chosen their pathway where the number of night shift, working hours, working environment, flow of patients in a day is highly different from working in the ED, which might explain the dissatisfaction in their well-being in the ED.

#23625 : Adolescent self-harm in the Emergency Department: an observational study from the Royal Berkshire Hospital, UK**Authors:**

Sarah Wilson (1), Liza Keating (2), Jonathan Hill (3), Tauseef Mehdi (4), Thomas Mantell (5), Dominic Jones (5)

1. Emergency Department, Frimley Health NHS Foundation Trust, Slough, United Kingdom
2. Emergency Department, Royal Berkshire NHS Foundation Trust, Reading, United Kingdom
3. Professor of child and adolescent psychiatry, University of Reading, Reading, United Kingdom
4. Consultant in child and adolescent mental health services, Berkshire NHS Foundation Trust, Reading, United Kingdom
5. MSc Student, University of Reading, Reading, United Kingdom

Keywords: Emergency Department, Mental health, Self-harm, Adolescent, Patient experience, Expectation

Abstract :

It is well established that young people who have self-harmed report negative experiences of Emergency Department (ED) treatments. Commonly ED staff also describe not knowing the best way to help.

Young people who have self-harmed probably differ in multiple respects from others attending the ED with two major implications. First we need to know more about these differences to inform ED care. Second there may be characteristics of adolescents who self-harm that explain how they experience being in the ED.

In this study we set out to examine these topics with a unique design in which young people were administered a questionnaire pack soon after arrival in the ED, and again at least 2 hours later, thus capturing their expectations and pre-existing characteristics, and their experience. Adolescents attending for suspected fractures served as the control group.

The study was paused because of COVID-19, at which time the numbers for the arrival questionnaires were, N = 25 self-harm, N= 60 control, and numbers also with second questionnaires, N = 17 self-harm and N = 41 control.

We report here from a subset of adolescent report measures on Expectations of Care based on items from a widely used measure the Parental Bonding Instrument, Borderline Personality Disorder features using a standard measure for adolescents, Attachment needs using the Reading Attachment Behaviour Questionnaire devised for this study, and a standard measure of Patient Satisfaction. We also administered parallel questionnaires to parents which are not reported here.

All the measures showed satisfactory psychometric properties with internal consistencies (alpha) of over .75.

The self-harm and control groups differed markedly in several respects. Mean scores for Borderline Personality disorder features were 1 s.d higher ($p = .001$), and mean attachment security scores 0.8 s.d. lower ($p = .004$) in the self-harm than the control group. The control group had more positive expectations of care from ED staff than the self-harm group, but that difference was not significant.

Young people who had self-harmed reported more dissatisfaction with their treatment than those with suspected fractures, with a difference in means of 1 s.d. ($p = .001$).

However, dissatisfaction was also predicted by Borderline Personality Disorder features ($r = .37$, $p = .004$), lower positive expectations ($r = -.27$, $p = .042$) and lower attachment security scores ($r = -.43$, $p = .001$). Numbers are at the moment insufficient for joint examination in multiple linear regression and so we cannot yet say whether these pre-existing characteristics explain the elevated dissatisfaction scores in the self-harm group.

The findings underline the distinctive needs of young people who self-harm and the way they may affect how they experience the ED. Implications for further work are that there may need to be a distinctive ED pathway for adolescents who self-harm taking account of these psychological and interpersonal needs, and that studies of patient satisfaction have to account for these differences when attempting to estimate the impact of the ED experience.

Trial Registration / Funding Information (only) :

Funding was awarded to this project from grants from the Joint Academic Board of the University of Reading and the Royal Berkshire Hospitals NHS Foundation Trust; and also from the Royal College of Emergency Medicine

Authors:

MANJULA SHRI SUBRAMANIAM (1), NARENDRA NATH JENA (2)

1. EMERGENCY RESIDENT IN INSTITUTE OF EMERGENCY MEDICINE, - MEENAKSHI MISSION HOSPITAL & RESEARCH CENTRE, MADURAI, India
2. HEAD OF THE DEPARTMENT, INSTITUTE OF EMERGENCY MEDICINE, - MEENAKSHI MISSION HOSPITAL & RESEARCH CENTRE, MADURAI, India

Keywords: SMOKE, AIRWAY MANAGEMENT, INHALATIONAL INJURY, BURNS

Abstract :**ABSTRACT:**

Inhalational injury is present in up to one-third of all burn injuries, however it accounts to up to 99% of all burn-related mortality. Smoke inhalational injury is a life threatening - complex multifaceted injury affecting initially the airway and progressively threatening every organ of the body. It is suspected clinically by direct observations and is often confirmed by additional diagnostic procedures such as bronchoscopy. These observations include a history of injury in a close space, such as fire, facial burns and singeing nasal vibrissae. Physical findings including soot in the upper airway, hoarseness and carbonaceous sputum may help support the diagnosis which includes exposure to flames, blast injury, and steam or inhaled irritants. Furthermore, the effect of this item can be exacerbated by the duration of exposure. Major pathophysiological change is development of edema in the respiratory tract. The degree of smoke exposure may not be directly related to the severity of respiratory failure. Symptoms indicating bronchorrhea or bronchospasm, such as wheezing, cough, dyspnea, and prolonged expiratory time suggest direct toxin damage to the bronchial mucosa. Herein reporting a case of 23 year old male presented with mysterious history was the patient was sleeping in a shed with 1/3rd of the shutter being open followed which there was a fire accident in the same vicinity (burning of the motor bike next to the shed) in which the burnt smoke was confined to the shed and he was exposed to smoke inhalational for more than 4 hours (unable to come out of shed). He presented to ED with severe cough and respiratory distress and elective rapid sequence intubation was proceeded and was managed with ventilator support, IV fluids broad spectrum antibiotics, steroids and other supportive care in ICU. Primary survey with adequate airway management with breathing and circulation control is the first line of management. Early diagnosis and treatment of smoke inhalation injury are the key factors for better outcome.

#23629 : PoCS Rule: a clinical decision rule for early prediction of persistent symptoms after a mTBI**Authors:**

Natalie Le Sage (1), Jean-Marc Chauny (2), Simon Berthelot (1), Patrick Archambault (1), Xavier Neveu (1), Lynne Moore (1), Valérie Boucher (1), Jérôme Frenette (1), Elaine de Guise (3), Marie-Christine Ouellet (4), Eddy Lang (5), Jacques Lee (6), Julien Clément (1), Marcel Émond (1), Éric Mercier (1), Peter Cameron (7), Jeffrey Perry (8)

1. CHU de Québec-Université Laval Research Center, none, Québec, Canada
2. Université de Montréal, none, Montréal, Canada
3. Research-Institute, McGill University Health Centre, none, Montréal, Canada
4. Centre interdisciplinaire de recherche en réadaptation et intégration sociale (Cirris), none, Québec, Canada
5. University of Calgary, none, Calgary, Canada
6. Schwartz/Reisman Emergency Medicine Institute, none, Toronto, Canada
7. The Alfred Hospital, none, Melbourne, Australia
8. Ottawa Hospital Research Institute, none, Ottawa, Canada

Keywords: mild traumatic brain injury, persistent post-concussion symptoms

Abstract :

Background: Each year in Canada, the incidence of mild Traumatic Brain Injury (mTBI, cerebral concussion) is estimated at 500 cases per 100 000. Given that between 10 and 56 % of patients with mTBI will have persistent post-concussion symptoms (PPCS), there is a pressing need for emergency departments (ED) physicians and other primary care facilities to have access to a simple and reliable *clinical decision rule* to predict persistent symptoms after a mild traumatic brain injury (mTBI). The main objective of this study is to derive and validate the *PoCS clinical decision Rule (Post Concussion Symptoms)* for the prediction of PPCS among patients presenting to the ED after a mTBI.

Methods: *Study design and setting:* This multicentre prospective cohort study took place in seven large Canadian Emergency Departments (ED) (five level I trauma centres, one level II trauma center and one academic non-trauma centre) between 30/04/2014 and 30/09/2018. *Inclusion criteria:* patients aged ≥ 14 who had a documented mTBI that occurred within 24 hours of ED visit, with a Glasgow Coma Scale score of 13–15. *Exclusion criteria:* Patients who were admitted following their ED visit or unable to consent. *Procedures:* Consecutive potential participants were identified by the treating emergency physicians. Informed consent was obtained, sociodemographic and clinical data were collected in the ED. A research assistant then conducted phone follow-ups at 7, 30 and 90 days post-injury, in which they assessed symptom evolution using the validated Rivermead Post-concussion Symptoms Questionnaire (RPQ). *Primary outcome:* The presence of persistent symptoms at 90 days after mTBI, as assessed using the RPQ. *Statistical methods:* A predictive model was derived using multiple logistic regression.

Results: A total of 1333 patients were enrolled (563 for the derivation cohort and 770 for the validation cohort), of whom 15.7% had PPCS. The final predictive model included the following factors in ED: age, sex, headache, cervical sprain, haemorrhage on CT, TBI or psychiatric history. The one-week follow-up allowed the identification of additional risk factors such as: fatigue, headaches, sleep disturbance, sensitivity to light or RPQ ≥ 21 . This model has a sensitivity of 94.4% and 91.4%, a specificity of 42.5% and 53.8% and a NPV of 97.5% and 97.2% in the derivation and validation cohorts, respectively.

Conclusion: The *PoCS Rule* will help emergency physicians to quickly identify mTBI patients at risk of PPCS and better refer them to the appropriate post-discharge resources. Future research should aim at improving the specificity of the model.

Trial Registration / Funding Information (only) :

Funding: This study was funded by the Canadian Institutes of Health Research and the Fondation du CHU de Québec – Université Laval.

#23630 : CAN RENAL COLIC MANIFEST AS LIVEDO RETICULARIS?

Authors:

Sonia Luka (1), Mara-Carmina Mihaiilescu (2)

1. PhD Student, EM Resident, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania
2. Student, Paramedic, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

Keywords: ischemia, aortoiliac, pain, renal colic, livedo reticularis, thrombembolectomy

Abstract :

Introduction: Acute occlusion of the common iliac artery is an uncommon emergency, but unrecognized, it may lead to ipsilateral limb ischemia. The pathophysiology involves thrombotic, embolic, degenerative, or traumatic events. Even though diverse in course, all cases share a common feature: a trigger event.

Material and method: case report of a 78-year-old male from a rural area, in prehospital setting, complaining of severe, sudden-onset posterior right flank pain irradiating to the groin area, which started 30 minutes prior to the arrival of the medical team, accompanied by nausea, diaphoresis, and general malaise. Past notable medical history includes chronic renal disease, cardiac, vascular, and pulmonary disease. On examination: conscious and oriented, visibly in pain, with frequent shifts in position, anxious, atrial fibrillation, and LBBB on ECG, weak distal pulses. While receiving antialgic and antispastic treatment, the patient starts complaining of right thigh pain and inability to move the right lower limb. On lower limbs re-examination, no changes in color, pulse and no paresis are noted. 5 minutes later, while in the ambulance, lower right calf pallor appears, followed within 2-3 minutes by plegia and livedo reticularis of the right leg, ascending on the right hemiabdomen, with significant worsening of the pain. At the time of admission in ED, initial blood work showed an impaired renal function and inflammatory syndrome. Based on these findings, differential diagnosis is considered among acute embolism, aortic dissection, aortoiliac occlusion, renal infarction and renal colic. The patient underwent an AngioCT scan reveals occlusion of the right common iliac artery with internal iliac permeability by collateral circulation, 90% stenosis of the left iliac artery, periaortitis, atheromatosis, right kidney artery partial stenosis, atrophic kidneys with calculi, bilateral pleural effusion with atelectasis, left lung consolidation, and a small area of splenic infarction.

Results and discussions: An incomplete examination and deluding initial complaints may lead to misdiagnosing a more severe condition with potential fatal consequences. The shift and worsening of pain despite receiving antialgic treatment should lead to a prompt complete reexamination of the patient. Angio CT, the golden standard examination, ruled out aortic dissection or aneurysms. The patient underwent a successful axilo-femoral right bypass. Given the thrombotic material observed during surgery, the pathophysiology of the ischemia is still uncertain: the differential diagnosis is considered between acute-on chronic in situ arterial thrombosis and chronic thrombosis with acute embolization or a combined mechanism. Despite an 3.9 INR upon arrival in the ED, the patient might have developed a prothrombotic state in the context of acute pneumonia or suffered an acute rupture and embolization of unstable

atheromatous diffuse plaques.

Conclusions: The change in location and severity of pain, the unresponsiveness to standard treatment and the correct identification of the signs of acute limb ischemia led to a prompt diagnosis of acute common right iliac artery occlusion. After surgical treatment, postoperative management included the need for inotropes, prolonged mechanical ventilation, antiarrhythmic medication and empirical antibiotic administration. After 20 days, the patient is discharged neurologically intact, with oral anticoagulants, comorbidities treatment and lifestyle adjustment recommendations.

#23631 : The impact of SARS-CoV-2 on attendances and acuity to a Children's Emergency Department**Authors:**

Damian Roland (1), William Jones (2)

1. Children's Emergency Medicine , Leicester University and Hospitals, Leicester, United Kingdom
2. Emergency and Specialist Medicine , University Hospitals of Leicester NHS Trust , Leicester, United Kingdom

Keywords: COVID19, Coronavirus, Paediatric Emergency Medicine, Health Services

Abstract :**Background**

The COVID19 pandemic has transformed health services throughout the world. However, compared to adults, there is little evidence that children are severely affected. In many countries attendances to Children's Emergency Departments have significantly reduced prompting some concerns that parents and carers were delaying bringing their children to hospital even when they may require urgent medical care.

Aim and Methods

In order to determine the impact of COVID19 on our tertiary Children's Emergency Department we compared attendances, diagnosis at discharge, initial paediatric observation priority score (POPS - a bespoke ED Early Warning Score) and Healthcare Resource Group (HRG) code for the months of March and April 2018, 2019 and 2020. HRG is a grouping consisting of patient events that have been judged to consume a similar level of resource; a lower score indicating increased resource utilisation.

Results

Presentations in March and April fell to 5399 (2020) having been 10898 (2019) and 8254 (2018) however overall HRG weighting only slightly increased to 8.71 from 8.48 (2019) and 8.98 (2018) which is a clinically negligible change. Initial mean POPS of all attendances was not statistically different at 1.10 having been 1.07 (2019) and 1.19 (2018). Children diagnosed with an infectious disease fell by 30.5 attendances per 1000 presentations and soft tissue injuries fell by 10.0 attendances per 1000 presentation comparing 2020 and 2019. There were increases in codes relevant to specific paediatric diagnoses (croup, febrile convulsion etc.) by 11.4 attendances per 1000 presentations in the same time periods and fracture/dislocations by 9.1 attendances per 1000 presentations. Other diagnostic codes, including mental health, increased or decreased by less than 10 attendances per 1000 presentations compared to the previous years.

Discussion

While anecdote and clinical experience may have concurred with the face validity that SARS-CoV-2 may have had a negative impact on acuity of children presenting to Children's Emergency Departments our local experience is that overall it appears to not be significantly different in March/April 2020 compared to 2019 and 2018. Despite a significant drop in attendances this was mainly made up of infectious diseases (such as gastroenteritis) and soft tissue injuries. Further detailed analysis is needed to confirm these observations and this work is ongoing and will be available by time of presentation, including an analysis of specific conditions.

Conclusion

While having a huge impact on children's presentations to Emergency Departments there is no evidence, at this stage, of significantly elevated acuity, or a large change in case-mix, as a result of the COVID19 pandemic compared to previous years.

Authors:

Chrifa Benchikh (1), Dorra Loghmari (2), hicheri yassine (3), Rabeb Mbarek (4), sourour briki (3), Chrifa Aouini (5), friji anis (1), lahouimel mariem (3), Naoufel Chebili (5)

1. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
4. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, SOUSSE, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: prehospital,paramedical, knowledge

Abstract :**Introduction :**

Although acute pain is a symptom often encountered in emergency medicine, many studies have highlighted insufficient diagnostic and therapeutic management.

Therefore a certain number of regulatory texts encourage healthcare establishments to set up therapeutic protocols concerning pain management.

The objective of this study is to assess the knowledge of paramedics concerning the management of acute pain in pre-hospital .

Résultats :

This study included 25 paramedics , 64.7% of them were males .

There was no written protocol for the treatment of pain in 64.7% of the cases.

The intensity of pain was assessed in the majority of cases (70.6%) by an VAS scale, an NRS scale in 5% of cases, while 35.3% considered that it would depend on age and understanding.

As for the severity of pain, it is defined as unbearable pain in 70.5% of cases, a VAS > 8 in 5.88% and by other definitions (23.52%).

The use of morphine drugs was : 0.2 mg every 10 min in 5.88% ; 3mg first bolus then 2 mg in 11.76% ; 2mg divided in 5 to 10 minutes in 35.29% of cases

The morphines available at the site of the intervention are Fentanyl for 76% of the responses and Sufentanyl for 17% of the responses.

For the undesirable effects of morphine, they are mainly respiratory distress in 52% of cases, nausea and vomiting in 47% of cases, dependence on morphine in 11.77% of cases and constipation in 5.88% of cases.

Regarding knowledge of the morphine antidote, 64.7% responded with Narcan (Naloxone), 29.9% responded with "I don't know" and 5.88% responded with Ephedrine.

Conclusion :

This evaluation highlights a deficiency in the practice of recommendations concerning the management of acute pain by paramedics of the prehospital emergency unit .

Analgesia treatment protocols should be in place for each prehospital emergency team. A practice assessment should be carried out regularly.

#23633 : Medical practice in face of the corona epidemic as a country with limited resources

Authors:

bouhoula asma (1), Dorra Loghmari (2), sondos Laajimi (3), ELECHI ANSAR (1), wael benjeddou (1), friji anis (4), Mounir Naija (3), Naoufel Chebili (3)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia

Keywords: Medical practice,covid-19,epidemic disease

Abstract :

Currently, the world has experienced various episodes of new outbreaks of corona virus. As of March 10, 2020, 118,347 cases have been identified in 110 countries and 4,267 deaths have been reported in 25 countries. Mainland China accounts for around 70% of patients diagnosed worldwide. The second most affected country outside of China is now Italy with 10,149 cases reported, followed by South Korea, Japan, Iran and other countries. China has tried to stop the transmission of the virus by quarantining the affected cities, shutting down transportation systems and enforcing the use of face masks, while other countries have focused on preparing for the emergencies. and attempted to strengthen the surveillance system at their points of entry to prevent any incursion into their country. Controlling and responding to an epidemic costs millions of dollars, which may not be possible for resource-poor countries.

In Tunisia and since the declaration of the 1st case on 02/03/2020, Tunisia settled in the crisis before a lot of countries which are more exposed to this virus by taking strict measures for the control and the prevention against the propagation of the epidemic by applying the principle of containment.

We are at the very beginning of this epidemic, our EMS are facing the beginning of this crisis.

At EMS, we currently receive 300 calls per day, 10 times more than normal and set up a reinforced organization by mobilizing specialist doctors, emergency medicine residents, family medicine residents.

the regulation is divided into two parts, that which receives calls for cases of corona virus (3 or more doctors are available to inform, advise and make decisions in the presence of a suspect or at risk case) and that which receives other calls, in addition the primary intervention teams are themselves responsible for collecting suspect cases.

Our strategy in the face of a suspicious case is :

After the opinion of the referent doctor ,we decide if the patient only requires advice or an evaluation with a sample taken by the EMS team, the intervention doctor judges if the patient is serious and that he will be hospitalized in the medical service infectious or resuscitation service or that he is a stable patient and he needs isolation at home and we must notify the regional health department for delivery of the sample and monitored at home.

In addition, our rate of unavailability of EMS (intervention teams) went from 3% to 17% since 02/03/2020. the only sample taken by the EMS team is the culprit.

In conclusion, Tunisia is in the first phase of this pandemic, our resources are very limited, would there be a strategy to deal with the subsequent stages?

#23635 : Regional CO poisoning registry. Epidemio-clinical study

Authors:

Rabeb Mbarek (1), Dorra Loghmari (2), MAROUA TALBI (3), khaoula rammeh (3), abir ouederni (3), ayachi Ilahi (4), nasr ghazi (5), Mounir Naija (5), Naoufel Chebili (5)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, SOUSSE, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia

Keywords: poisoning,CO,epidemiology

Abstract :

Carbon monoxide (CO) poisoning is one of the most serious medical emergencies causing life-threatening conditions, including cardiovascular and neurological sequelae. Acute CO poisoning can lead to myocardial ischemia, ventricular arrhythmia, syncope, seizures, and coma. In Tunisia CO poisoning is frequent (estimated at a few thousand per year), serious (around a hundred deaths per year) and often underdiagnosed.

The objective of this study is to estimate the extent of this phenomenon, to describe the circumstances of occurrence and as well as the epidemiological-clinical criteria from a register set up at the SAMU during this winter period.

A mono-centric study collecting all patients diagnosed for carbon monoxide poisoning from 40 phone calls (between primary and secondary mission) and involving the SAMU team from the eastern center (Sousse, Monastir, Mahdia, Kairouan) between November 2019 and January 2020 considering the seasonal nature of CO poisoning (cold period).

Results:

During the study period, 52 cases were collected. The mean age was 31 ± 7 years with extremes ranging from 16 months to 82 years. The sex ratio (F / M) was 1.7. This intoxication spares no age group. It mainly concerned women (50% of cases), 2% of whom were pregnant women.

CO poisoning was accidental in 100% of the cases and mainly occurred at home. It followed the modern heating system in 70% of the cases and by the kanoun in 17.5% of the cases.

Forty-eight patients had at least one clinical sign. The most frequently reported clinical signs were neurological disorders (38.4%), respiratory headache and dizziness (19.2%) (13.5%), nausea and vomiting (11.5%) and cardiovascular signs (7.7 %).

Among the complications, 8% of the addicts presented convulsions and 8% presented an acute coronary syndrome. 3 died.

Oxygen therapy was the main antidotic treatment. Fifteen percent of cases were admitted to the emergency department and 15.4% of patients received hyperbaric oxygen therapy.

Conclusion:

CO poisoning is a real socio–family tragedy. It is also a real public health problem due to its high recurrence over a short period of the year. As each winter approaches, awareness campaigns should be launched to maintain the heaters and fireplaces to avoid CO poisoning. The improvement in socio–economic conditions would also encourage its reduction.

#23636 : COVID-19 – Training emergency department staff on the safe usage of personal protective equipment**Authors:**

Joe Campbell (1), Liam Sabine (2), Gareth Hopkins (1), Jasmin Gregory (1), Akosua Wamba (1), Claire McGroarty (3), Alan Whitelaw (3), Nicola Littlewood (3)

1. Emergency Department Clinical Fellow, NHS GG&C, Glasgow, United Kingdom
2. Emergency Department Clinical Fellow, NHS GG&C, Glas, United Kingdom
3. Emergency Department Consultant, NHS GG&C, Glasgow, United Kingdom

Keywords: COVID-19, PPE, Teaching

Other

Patient images are not involved

Abstract :

Brief clinical details (80 words):

During the covid-19 pandemic healthcare staff have needed to adapt to an increased use of personal protective equipment (PPE). It became increasingly clear that information about what was required was difficult to disseminate to staff. At the Emergency Department of the Queen Elizabeth University Hospital in Glasgow we created a standard operating procedure (SOP) and teaching sessions demonstrating the correct technique for donning and doffing the PPE required for patient contact with patients with suspected COVID-19 infection.

Description of the relevant abnormalities (80 words):

The poster submitted demonstrates a guide to donning and doffing PPE. Guidance was derived from media distributed by Health Protection Scotland. The poster was put in every patient bay in the department. It was also used for delivering training to over 250 staff members including doctors, nurses, healthcare assistants, porters, domestics, and allied health professionals. Training was delivered in small groups for all staff by the Emergency Department clinical fellows in group led demonstrations to minimise PPE waste during teaching.

Why this image is clinically or educationally relevant? (50 words):

The SOP poster provided a reference point for staff to adhere to, aiming to improve compliance to safe technique reduce risk of spread of infection. The posters reinforce learning for department staff and provide clear guidance to visiting staff such as paramedics, radiographers and other healthcare professionals.

Where patients' images are submitted please confirm you have adequate permission to use them. (compulsory question, no submission without an answer):

Not applicable – no patient images.

Attachment: don-doff-merged.pdf

#23637 : Ruling-out pulmonary embolism in Covid-19 in the ED: preliminary score proposal.

Authors:

Alessio Marra (1), Federico Zanardi (2), Marina Marchetti (3), Valentina Rosti (2), Eliana Margutti (2), Anna Falanga (3), Roberto Cosentini (4)

1. Emergency Department, Hospital Papa Giovanni XXIII, Bergamo, Italy
2. Emergency Department, Papa Giovanni XXIII Hospital, Bergamo, Italy
3. Department of Transfusion Medicine and Hematology, Papa Giovanni XXIII Hospital, Bergamo, Italy
4. Emergency Department, Hospital Papa Giovanni XXIII, BERGAMO, Italy

Keywords: CoVID-19, pulmonary embolism, clinical scores

Abstract :

Background

Pulmonary embolism (PE) is recognized as a complication of Covid-19 pneumonia, with possible detrimental effects on outcomes. Excluding PE in the emergency department (ED) is challenging. This is particularly true in patients with Covid-19, due to their clinical instability (limiting computed tomography pulmonary angiography [CTPA] use), high D-dimer levels, and the similar presentation of the syndromes. Aim of this preliminary analysis is to describe Covid-19 patients with PE and to create a simple risk score to safely exclude PE in these patients.

Methods

Preliminary retrospective analysis of electronic charts of Covid-19 patients undergone CTPA for suspected PE at Papa Giovanni XXIII Hospital ED (Bergamo, Italy) during initial Covid-19 outbreak (February 22nd - April 4th). Comparison of epidemiological, clinical and laboratory data between patients with and without PE was made. Statistically different variables were categorized accordingly to their distribution and reference ranges, and a regression analysis was created. Standard coefficient (β) for each variable was used to compute a score for PE. Receiver-operator characteristic (ROC) curve for the score was obtained, and different cut-offs were tested (chi-square). This preliminary analysis suffers from selection bias (CTPA was ordered by the doctor on duty) and from the small sample and event sizes. More cases are being analyzed and, if the results will be confirmed, external prospective validation will be needed. No funding were received. Given retrospective nature, informed consent was waived by local ethical committee.

Results

During the study period, 44 CTPA were obtained, 17 of which (38.6%) presented PE. Thirty patients were male (68.2%), and median age was 62 years (IQR: 52.5-71.7). All patients had D-dimer levels higher than age-corrected cut-off (median: 2718.0 [1377.5 – 8034.0] ng/mL). Patients with PE had more frequently chest pain ($p=0.043$), higher D-dimer ($p=0.020$) and white blood cell (WBC) levels ($p<0.001$). D-dimer values were categorized into 3 groups accordingly to normal values (<500 ng/mL) and to the 75^o percentile (8760 ng/mL), while WBC values were divided accordingly to reference ranges in our lab (4200 - 9400 cell/mm³). Applying β obtained in the linear regression gave $y = \text{ChestPain} * 0.346 + \text{DDimer} * 0.400 + \text{WBC} * 0.338$, and the score was defined as follows:

Chest pain

no=0

yes=3.5

WBC

$<4200 = 0$

4201-9400 =3.4

$>9400 = 6.8$

Ddimer

$<500 = 0$

500-8761 =4

$>8761 = 8$

ROC curve for PE had an area-under-the-curve (AUC) = 0.900 (IC95%: 0.807 - 0.993, $p < 0.001$), with an optimal cut-off for sensitivity and specificity of 10.9 (75% and 89.3%, respectively), with PE prevalence of 13.8% and 80%. Setting the cut-off at 10 gave a 100% negative likelihood ratio and a 100% sensitivity for PE.

Discussion and conclusion

Clinical presentation and laboratory parameters alone lack sensitivity and specificity for PE. However, chest pain is one of the most typical symptom of PE. Given the tight relationship between the coagulation cascade and the inflammatory response during Covid-19, it seems reasonable that both D-dimer and WBC are associated with PE. If validated in multicenter study, our simple score will safely rule-out PE in Covid-19 patients in the ED.

#23638 : It is not always that simple: rare presentation of gastric ischemia

Authors:

Jasmin Hamzic (1), Helena Penic-Grgas (1), Natasa Mandic (2), Bojana Radulovic (2), Ivan Gornik (1)

1. Emergency department, University Hospital Zagreb, Zagreb, Croatia
2. Emergency Department, University Hospital Zagreb, Zagreb, Croatia

Keywords: Gastric ischemia. Emergency department.

Abstract :

A 65 years old patient presented in the emergency department with chest pain. Although patient had multiple risk factors for cardiac origin of pain (diabetes mellitus type 2, previous NSTEMI/PCI, hypertension, chronic kidney disease), her clinical presentation wasn't so suspicious. Patient had severe microcytic anaemia (haemoglobin 43g/L), due to warfarin toxicity (INR >5,3). She received PBC and SSP before I asked gastroenterologist to do emergency esophagogastroduodenoscopy. Patient had multiple ulcerations, without signs of active bleeding. We still tried to pursue why patient had such a worrisome finding, so we decided to do abdominal angiography. This test showed hypovascular changes, with thickening of mucosa and some gas within gastric wall. We started a therapy for gastric ischemia, patient received IV fluids, she received nasogastric tube, high dose IPP and antibiotic therapy with ertapenem. Patient was admitted to hospital, and after a few days of supportive therapy she was discharged home. Gastric ischemia is rare disease that can be seen in emergency department, and in this paper, we will try to give some recent data on how to recognize and manage these patients in emergency department.

Authors:

Eva Maria Genewein (1), Doris Eis (2), Micha Dambach (3), Mathias Zürcher (4)

1. emergency department, head of ED, Langnau iE, Switzerland
2. Emergency Department, University Hospital , Zürich, Switzerland
3. Prehospital Medicine, academic teaching hospital Luzerner Kantonsspital, Luzern , Switzerland
4. PrehospitalMedicine, Swiss Center for Rescue, Emergency and Disaster Medicine, Basel, Switzerland

Keywords: Quality, Commission, Swiss, Society of Emergency Medicine

Abstract :

As a rule, doctors are acutely aware that errors in diagnosis and treatments could have serious consequences on the wellbeing of their patients. This is why quality has always been a big concern for them. In 2014, 80% of the Swiss population had a positive to very positive view of the Swiss health care system.^[1] Nevertheless, 10 % of health care patients in Switzerland suffer a damage, which could be avoided^[2]. This shows that there is room for improvement. But to go beyond, to be able to improve standards, one needs to be able to observe results in a systematic way.

With that goal in mind, the Swiss Medical Association (FMH) convened all its medical societies in 2013 to design a “Charter of Quality”. Published in 2016, it gives 15 principles to follow for improving health care and making it more transparent.

In 2016, the Swiss Society of Emergency and Rescue (SSER) signed the Charter of Quality which calls for greater transparency of health care in Emergency Medicine. The first strategy was designed and implemented in 2018. It merged into one quality perspective preclinical and clinical phases of health care. It established a quality commission dedicated to build an interprofessional task force which included all specialties participating in Emergency Medicine. It held its first meeting in June 2019.

It seeks to design a common understanding about using the data to record quality, determine quality goals, improve patient safety in emergencies, establish prerequisites for good quality, define ratios that increase informative value and map the landscape of rescue and emergency medicine. The collaborative nature of emergency medicine raises a challenge as it aims to structure processes and data while it requires several disciplines to dialog, research and work together. This dynamic led the Q-Commission to publish for the first time activities of the SSER in a first report.

[1] Charles Vincent & Anthony Staines: Enhancing the Quality and Safety of Swiss Healthcare, 25.9.2019, p. 10.

[2] Ibid., p. 6, 9.

Trial Registration / Funding Information (only) :

none

#23642 : Validity of triage system at Northumbria Specialist Emergency Care Hospital

Authors:

Rebecca Davy (1), Mark Harrison (2)

1. , none, Northumbria Healthcare NHS Foundation Trust, United Kingdom

2. , , Northumbria Healthcare NHS Foundation Trust, United Kingdom

Keywords: Triage, patient flow, accident and emergency, hospital admissions,

Abstract :

Introduction

Northumbria Specialist Emergency Care Hospital (NSECH) is an acute hospital in Northumberland, UK. The triage system used in the emergency department (ED) at NSECH is unique. It is based on the Manchester Triage System (MTS) but is modified by certain physiological parameters at the time of presentation.

Aim

Our aim was firstly to test the ability of the NSECH triage system (NTS) to predict the true urgency of a presentation and secondly to compare it to internationally recognized triage systems. The triage systems selected for comparison were MTS, Emergency Severity Index (ESI), South African Triage Scale (SATS), Canadian Triage and Acuity Scale (CTAS) and Australasian Triage Scale (ATS).

Method

Every adult presentation to ED in one 24-hour period was retrospectively reviewed by ED physicians using electronic case notes. NTS score was recorded and each patient was retrospectively re-triaged using MTS, ESI, SATS, CTAS and ATS and given a triage category by each respective system. Triage categories indicate decreasing level of priority with P1 being the highest. National Early Warning Score (NEWS) at presentation (more deranged physiological variables result in a higher NEWS), admission to hospital and admission to intensive care were used as surrogate markers of need for urgent assessment.

Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated for each triage system for categorising patients with $NEWS \geq 5$, $NEWS < 2$, hospital admissions or intensive care (ITU) admissions correctly as either high priority (P1 or P2) or low priority ($\leq P3$).

Results

There were 218 adult attendances to ED in 24 hours. NTS categorised 24% patients as high priority. Sensitivity of triaging patients who required ITU admission as high priority was 100% with NTS, MTS, CTAS and ATS. As opposed to 75% by SATS and 50% by ESI. The PPV for NTS was 7.2% for ITU admission (% triaged as high priority who required ITU admission) and 52.9% for hospital admission. PPV for other systems ranged between 2.6% - 6%, and 44.8% - 57.2% for ITU and hospital admission respectfully. NTS is 92.9% specific for triaging patients with NEWS

Conclusion

This study shows NTS triages truly urgent patients, such as those requiring hospital and ITU admission, as high priority comparably to other widely used triage systems. NTS appears to outperform other systems in triaging non urgent cases as low priority. This is an important consideration given exponential increase in pressures facing Emergency Departments globally. Limitations include the sample size and the study's retrospective nature. The re-triage process is limited by the quality of clinical documentation and inter-user variability. Future research should consider a larger prospective analysis comparing real time triage between different systems.

Trial Registration / Funding Information (only) :

na

#23643 : The usefulness of video calls on triage decision-making during COVID-19 outbreak

Authors:

Annapaola D'Ambrosio (1), Valentina Duga (2), Filippo Bernasconi (1), Fabio Sangalli (1), Paola Manzoni (1), Paolo Baldini (1), Riccardo Stucchi (3), Andrea Pagliosa (4), Giuseppe Maria Sechi (5), Maurizio Migliari (1), Roberto Fumagalli (6)

1. Covid-19 response team, AREU, Milano, Italy
2. Covid-19 response team, AREU, milano, Italy
3. Headquarters, AREU, Milano, Italy
4. Headquarters, AREU, milano, Italy
5. Medical director, AREU, milano, Italy
6. Professor of Anesthesia and Intensive care, Università degli studi di Milano- Bicocca, milano, Italy

Keywords: Video calls, COVID-19 outbreak, shortness of breath

Abstract :**Background**

After the first confirmed 2019-nCoV case was reported in Italy on February 21st, the Emergency Medical System (EMS) of Lombardy underwent a reorganization in order to face the overload. One of the modifications in the EMS PSAP-2 (Public Safety Answering Point) was the institution of a Medical COVID-19 Response Team (MC19RT) to assess the clinical condition and determine the need for hospitalization in non-urgent medical cases. Therefore, we introduced the possibility to obtain a video call to support the decision-making process when the information obtained from the phone call alone was inconclusive.

Methods

This is a case-series of non-consecutive video calls. During the study period (March 26, 2020 through April 10, 2020) the MC19RT processed 3188 calls. The video call was performed by the referring physician via a commercially available app (eg Whatsapp). Explicit verbal consent was obtained before activating the video. During the video call we collected anamnestic data, assessed respiratory mechanics and clarified the location and type of chest pain when present. Continuous variables were described with the median, categorical ones with absolute or relative frequency, and the χ^2 test was used in order to identify any changes with respect to the expected proportions. The database, the graphs and the analysis were performed with Microsoft Excel 2007 and GraphPad Prism 5.

Results

We offered the video call in 22 cases and performed in 21 (one person didn't give consent). The median age of the patients was 53 (1st-3rd quartile = 37 - 67) years and all people were at home during the video call. The main complaint was shortness of breath (SOB) in 16 cases (76%), chest pain (CP) in 3 cases (14%), and support for home-care of fragile patients in two cases (10%) (connection of oxygen cylinders and assistance for a bedridden patient). Based on the

informations obtained before the video call, hospitalization would have been indicated in 49% of cases and after only 22% was hospitalized ($p=0.1$) (Figure 1). Among the hospitalized 5 were for SOB and none for CP or technical support (Figure 2). Just two patients called in the next days for recurrent SOB (9,5%).

Discussion & Conclusions

We test video calls in medical non-emergent clinical cases on young people who were at home. They improve the medical decision-making between hospitalization and homecare and was able to reduce unnecessary hospitalizations in some cases. Video calls can also be a supporting tool for homecare of fragile patients and through them we can provide technical support for the management of healthcare devices. As far as we know, these are the first and preliminary results on the use of video calls in pre-hospital triage by PSAP-2. These results require larger investigations to identify the cases that can benefit from video calls and to prove its effectiveness.

#23644 : Proper updated and available information at any time during a COVID-19 pandemic. What to do?

Authors:

Anne Grethe Molbak (1), Gerhard Tiwald (2), Anne Grethe Molbak (3)

1. , , Køge, Denmark
2. Emergency department, Zealand University Hospital, Køge, Denmark
3. Emergency department, Zealand University Hospital, Køge, Denmark

Keywords: Acute communication, Web-based communication, knowledge sharing, emergency medicine, Covid-19

Abstract :**Background**

The impact of the Corona pandemic started in Marts 2020 in Denmark. The emergency departments experienced at a sudden a tremendous increase, in not only guidelines and recommendation, but also a rapid change within the content. Furthermore, the work-conditions and –environment changed often from day to day. The processes of communication to members of the staff were challenged to its uttermost. In the Emergency Department at Zealand University Hospital, Koege, we have a well-established web based platform providing easy access to attendance plans, team structure and educational issues on daily basis. The questions were: could we within few days apply a usable news line within the platform? Could it fulfill some of the needs of the staff? Was it feasible?

Methods

In less than 5 days, we applied a tailor-made news line to the platform. It was capable of presenting appropriate new information on a timeline. Due to this, it was possible very quickly to update on professional and administrative news in the department. Information is show in short text, but could easily be reveal in full text, web links or videos. Having the platform short questionnaires were send to doctors and students in the department just prior to the release and after three weeks. The questions were initially focusing on the topic: do we need quick access of information. Focus of the final questionnaire were: having it, does it matter – shall vi peruse the issue, as a matter of importance.

Results

On the first questionnaire, 49 (86%) of the staff answered. 10 % of these were new staff members. 56% found it difficult to be updated on news on a daily base. 46% found it difficult to find the

newest information. 56% already used our platform to keep updated on team structure and education. To 96% of our staff it was important, to be updated on information to feel as a full member of the professional community within the department. On the second questionnaire, only 20% had answered at survey at closing day, 25 days after the start of the survey. Here around 80% recognized the platform.

Discussion & conclusions

Due to the impact of the Coved-19 pandemic on our department, it became clear within the first days, that prober-updated information was mandatory – and easy accessibility using platforms we used at a daily base. Thus, there were no time for a pilot period – the demand were there. The initial result confirmed that our lines of information using mail, distributing papers were insufficient and difficult to keep hold of. Furthermore, the staff stated the importance of being updated for the affiliation to the work place community. A matter of even great importance during a hazard, as a pandemic of corona. The data after 21 days are small but the recognition; means that we will continue further development of the platform.

Trial Registration / Funding Information (only) :

No patients involved/"This study did not receive any specific funding."

#23645 : COVID-19: A paediatric emergency department experience

Authors:

Benjamin Holter (1), Margot Van de Vijver (2), Charles Stewart (3)

1. Paediatric Emergency Medicine, Chelsea and Westminster NHS Foundation Trust, London, United Kingdom
2. Paediatric Emergency Medicine, Chelsea and Westminster NHS Foundation Trust, London, United Kingdom
3. Paediatric Emergency Department, Chelsea and Westminster NHS Foundation Trust, London, United Kingdom

Keywords: paediatrics, emergency medicine, infectious diseases

Abstract :**Background and Objectives:**

The 2019 novel coronavirus pandemic disease (COVID-19) has been reported in children of all ages with far fewer confirmed cases in children than adults. The aim of this report is to gain a better understanding of the epidemiological and clinical characteristics of COVID-19 in children presenting to the Paediatric Emergency Department.

Methods:

We performed a retrospective observational cohort study of all paediatric patients tested for COVID-19 in two Paediatric Emergency Departments over a period of 8 weeks. Electronic patient records were analysed for demographics, clinical features, outcomes and interventions of those tested positive.

Results:

302 tests were performed. 19 patients were positive with a median age of 1 year, 6 months. Disease severity was classified on presentation; 7 cases (36%) mild, 5 (26%) moderate, 6 (32%) severe, and 1 (5%) was critical. All children with co-morbidities (26%) displayed moderate to critical disease severity. Clinical features included fever (100%), followed by rhinorrhoea (52%) and abnormal neurology (43%). 17 (89%) were discharged, one transferred to a Paediatric ITU and one patient died in the Emergency Department. There were two surgical presentations including intussusception and septic arthritis. One patient tested positive after 2 negative tests

Conclusions:

This study shows that COVID-19 in children manifests with a wide spectrum of clinical features and disease severity. We found a significant proportion of neurological presentations in our cohort which warrants larger scale studies. The study also suggests a need for review of both screening criteria and diagnostic testing to improve detection of COVID-19.

#23646 : Cocaine and beta-blockers

Authors:

Pablo GONZÁLEZ GARCIA (1), Itziar OSTOLAZA TAZÓN (1), DAVID LÓPEZ FERNÁNDEZ (1)

1. Emergency Department, Hospital Universitario Marqués de Valdecilla, Santander, Spain

Keywords: Cocaine, beta-blockers, acute coronary syndrome**Abstract :**

35-year-old man, obese, almost daily cocaine user, asthmatic without treatment or exacerbations for at least the last three years. Admitted to the emergency department at 7am on Epiphany Day suffering from typical chest pain and sweating after consuming about 2 grams of cocaine throughout the night. Upon arrival, his blood pressure reads 117/100 mmHg and his heart rate is 105 beats per minute, with chest pain. Sublingual nitroglycerin is administered as well as sublingual and intravenous (IV) diazepam, and IV metamizole, the patient's clinical situation improving after a few minutes. An electrocardiogram (EKG) is performed, showing generalized T-wave flattening, then displaying negative T waves in the anterolateral wall in the next EKG performed one hour later. Blood test shows no relevant findings with ultrasensitive troponin serial of 9 and 6 ng/l.

The case is discussed with Cardiology, deciding to monitor in the emergency department until cardiac computed tomography (CT) is performed. It is decided to administer beta-blocker (Nebivolol Oral) for 2frequency control before CT, two doses are administered. As a protocol prior to performing the TC, 10 mg of IV metoprolol are administered, followed by another 10 mg dose later. He is conscious when he arrives to the radiology room, with HR 68 bpm and oxygen saturation at 99% when he suddenly presents a decreased level of consciousness, cyanosis and desaturation (70%) with HR 30 bpm, entering pulseless electrical activity (PEA) despite 1mg of atropine. After advanced cardiopulmonary resuscitation (CPR), he regains a pulse and is transferred to the Cardiac Unit. Finally, after suffering a new cardiorespiratory arrest and requiring extracorporeal membrane oxygenation (ECMO), he died after 7 days due to brain death following severe anoxic encephalopathy.

Cocaine use causes an increase in blood pressure, tachycardia, endothelial dysfunction and platelet aggregation, all of which can trigger an acute coronary syndrome (ACS), one of the causes being both alpha and beta-adrenergic blockade of endothelial receptors. For this reason, and even if some pieces of research support it despite the fact that there is no powerful scientific evidence, the use of beta-blockers should be avoided. In this case, the reason for using beta-blockers was the need to control the heart rate to perform a cardiac CT. Although the use of beta-blockers should be avoided, if a beta-blocker is required in a patient with chest pain due to cocaine use, it seems advisable to use labetalol, a combined alpha and beta blocker, together with nitroglycerin or a calcium-channel blocker.

#23647 : Stingray spine: a novel extraction procedure.

Authors:

Giovanni Cappa (1), Bruno Barcella (2), Pietro Pettenazza (3)

1. Emergency Medicine Postgraduate Training Program, University of Pavia, Italy, PAVIA, Italy
2. Emergency Medicine Postgraduate Training Program, University of Pavia, Italy, Bergamo, Italy
3. Emergency Medicine Unit, IRCCS Policlinico San Matteo Foundation, Pavia, ITALY, pavia, Italy

Keywords: prehospital care, spine extraction, wound care, extreme medicine, foreign body

Abstract :

Stingray stings are among the most common envenomations in the marine environment: to date a precise method on how to safely extract a stingray spine from soft tissues has not been proposed. We illustrate a case report in which the aim is to describe a simple and fast extraction using basic surgical tools.

The following procedure has been successfully performed with two pairs of forceps, a curved tips forceps and thumb dressing forceps, on a patient with a stingray spine penetrating the thenar eminence of his left hand.

The patient had a good outcome preserving full functionality of the hand and no wound complications occurred.

Attachment: IMG_1205 2.JPG

#23650 : Assessment of breathing in cardiac arrest - a randomised controlled trial of three teaching methods

Authors:

Niklas Breindahl (1), Granholm Anders (2), Theo Walther Jensen (3), Annette Kjær Ersbøll (4), Helge Myklebust (5), Freddy Lippert (6), Anne Lippert (7)

1. Herlev Hospital, Copenhagen Academy for Medical Education and Simulation (CAMES), Herlev, Denmark
2. Department of Intensive Care, Copenhagen University Hospital–Rigshospitalet, Copenhagen, Denmark , Copenhagen Academy for Medical Education and Simulation, Center for HR&U, Capital Region of Denmark, Copenhagen, Denmark
3. Copenhagen Emergency Medical Services, Copenhagen, Denmark , Copenhagen Academy for Medical Education and Simulation, Center for HR&U, Capital Region of Denmark, Copenhagen, Denmark
4. National Institute of Public Health, University of Southern Denmark, Odense, Denmark, National Institute of Public Health, University of Southern Denmark, Odense, Denmark, Copenhagen, Denmark
5. Laerdal Medical, Stavanger, Norway, Laerdal Medical, Stavanger, Norway, Stavanger, Norway
6. Copenhagen Emergency Medical Services, Copenhagen, Denmark , Copenhagen Emergency Medical Services, Copenhagen, Denmark , Copenhagen, Denmark
7. Copenhagen Academy for Medical Education and Simulation, Center for HR&U, Capital Region of Denmark, Copenhagen Academy for Medical Education and Simulation, Center for HR&U, Capital Region of Denmark, Copenhagen, Denmark

Keywords: Gasping, gasps, agonal breathing, abnormal breathing, breathing patterns, cardiac arrest, simulation, randomised controlled trial, education, Basic Life Support

Abstract :

Background: Agonal breaths are slow and deep breaths, frequently with a characteristic snoring sound, and are present in approximately 40% of victims in the first minutes of cardiac arrest. The importance of early recognition has been emphasised due to increased survival rates if responded to as a sign of cardiac arrest. Teaching laypersons how to recognise breathing patterns is challenging, and agonal breathing is particularly difficult to recognise. We aimed to compare a video- and a simulation-based teaching method to the conventional lecture-based method when teaching laypersons how to recognise normal, no, and agonal breathing.

Methods: In this Danish investigator-initiated, unblinded, randomised controlled trial, adult laypersons (university students, military conscripts and elderly retirees) participating in European Resuscitation Council (ERC) Basic Life Support (BLS) courses were randomly allocated to receive teaching on how to recognise breathing patterns using lecture- (standard practice), video- or simulation-based teaching methods. The primary outcome was the mean proportion of correctly classified breathing patterns in nine videos of actors simulating normal, no, and agonal breathing. We analysed the primary outcome using a logistic regression model and the likelihood ratio test and presented results as odds ratios with 95% confidence intervals (CIs).

Results: 156 participants were included from February 2, 2018 through May 21, 2019; 153 were included in the analyses: 52 in the lecture group, 50 in the video group, and 51 in the simulation group. The mean proportion of correct answers was statistically significantly different between the groups ($P=0.013$). Compared to lecture-based teaching (83% correct answers), both video- (90% correct answers; OR 1.77, 95% CI: 1.19-2.64) and simulation-based teaching (88% correct answers; OR 1.48; 95% CI: 1.01-2.17) led to significantly more correct answers. Video-based teaching was not statistically significantly different from simulation-based teaching (OR 1.20; 95% CI: 0.78-1.83).

Discussion & Conclusion: Video- and simulation-based teaching methods led to improved recognition of breathing patterns among adult laypersons participating in BLS courses compared to the standard lecture-based teaching method. Video-based teaching is not dependent on instructor skills, does not require specific instructor training, and it can be carried out in plenary. Thus, video-based teaching can be implemented in existing BLS courses without substantial increases in time requirements or costs. Finally, videos may be made available to participants after the course, which potentially can increase learning retention.

Ethical approval and informed consent: The Committee on Health Research Ethics in the Capital Region of Denmark waived the need for further ethical approval (approval number: 17021633). Participation in the trial was optional and voluntary and all participants gave written informed consent.

The trial results are original and have not yet been published.

Trial Registration / Funding Information (only) :

Trial registration: The trial was not publicly registered, as this is not mandatory for studies assessing teaching interventions in healthy volunteers. The trial was conducted in accordance with a pre-specified protocol and statistical analysis plan (available in Danish from the corresponding author upon request). Funding: The trial was funded by the Danish foundation TrygFonden.

#23651 : Aggression against the emergency teams in Bulgaria-analysis and ways of limiting it

Authors:

Desislava Katelieva (1), Lora Georgieva (2), Teodor Tsankov (3)

1. NGO, BEMSA, Sofia, Bulgaria

2. Medical University of Varna, Department of Social Medicine and Healthcare Organization, Varna, Bulgaria

3. EMS-Sofia, EMS-Sofia, Sofia, Bulgaria

Keywords: Aggression, emergency teams, safety, protection

Abstract :

Background: Verbal and physical aggression against emergency teams is a serious problem, forcing many medics to leave the system of emergency medical care in Bulgaria. An analysis of the frequency and forms of aggression was carried in order to propose measures to limit its impact, taking into account some proposals by the emergency staff itself.

Methods: Two studies were conducted via social network, among workers in outpatient and hospital emergency care in Bulgaria. The first study, carried in the period 22.02.–22.04.2020, on the frequency and types of aggression exercised upon emergency teams was conducted among 134 respondents. The questionnaire aimed to determine who, when, how and why exerts aggression over the emergency medics, and gathered suggestions of the medical staff how to protect themselves. The second study was carried in the period 16.02–16.04.2020 among 115 respondents on the need for regulatory measures to prohibit carrying weapons in the presence of an emergency team, as well audio and video footage of the team's work and its dissemination in social networks and mass media.

Results: The results of the first study showed that 112 (84%) respondents do not feel safe on duty. According to 122 (91%) aggression is mostly shown by the relatives of patients, and according to 95 (71%) – by patients under the influence of alcohol or psychotropic substances. Aggression may occur at any time during the medical examination according to 95 (71%) and in case the patient is dissatisfied with the service – 91 (67%). According to 68 (51%) aggression occurs monthly and according to 42 (31%) on daily basis. Over 80% reported as forms of verbal aggression: insults, threats of complaints to institutions and media, audio and video footage. 20 respondents (15%) claim that records made to them at work are distributed without their consent. 97 (72%) were victims of physical aggression and 29 (22%) were threatened with weapons. 129 (96%) are dissatisfied with the existing measures against aggression. Among all respondents in the two studies, over 40% supported measures such as CCTV in emergency departments, panic buttons, physical security. Nearly 70% wanted regulatory changes prohibiting video and audio footage from escorts and patients, as well as banning the carrying of firearms.

Discussion & Conclusions: Aggression against emergency staff remains a serious issue and takes several forms. Some of the Bulgarian emergency medics do not feel safe at work. Emergency medical personnel is not satisfied with the existing measures against aggression and

recommends regulatory changes that will contribute to greater security at work. It is highly recommended for health institutions to research deeply this problem and take timely and adequate decisions, because the shortage of staff in the emergency care system increases, lowering the quality of the medical care of the population.

Authors:

KAVIA KANNAN POOPANDI (1), NARENDRA NATH JENA (2)

1. EMERGENCY RESIDENT IN INSTITUTE OF EMERGENCY MEDICINE, - MEENAKSHI MISSION HOSPITAL & RESEARCH CENTRE, MADURAI, India
2. HEAD OF THE DEPARTMENT, INSTITUTE OF EMERGENCY MEDICINE, - MEENAKSHI MISSION HOSPITAL & RESEARCH CENTRE, MADURAI, India

Keywords: BULL GORE INJURY, PENETRATING INJURY, AIRWAY MANAGEMENT, INTERCOSTAL DRAINAGE, MASSIVE BLOOD TRANSFUSION, EMERGENCY OT, RESUSCITATION

Abstract :**ABSTRACT:**

Animal related injuries are frequently reported in countries where bulls are used in sporting events and in places where farming and livestock rearing is practiced. The pattern of injury sustained by the victim varies depending on the height of the victim, height of the bull and the position of animal and victim at the time of the attack. Jallikattu, a traditional bull taming event, is an inevitable part of Pongal festival in the state of Tamilnadu where “Jalli” refers to coins and “Kattu” means tied. Though seen by the courts and animal welfare as cruelty on the bulls, it is celebrated as a display of valour in Tamil culture. However, one aspect that remains unchanged — through the years in which the legality of this bull-taming sport was questioned, the event itself banned, and then restored by law — is that every season it leaves a few dead and scores wounded. Since these animals have very aggressive characteristics, any patient who is a victim of bull gore injury must be evaluated and treated as a case of polytrauma right from the time he/she presents to the treating facility. Given the grievous nature of the bull gore injuries, often these wounds are a trauma doctor’s nightmare and are an event that cries for maximum regulation. The injuries sustained include those caused by directly penetrating bull’s horn, blunt injuries on the chest or spine and long bone fractures. The mechanics of bull goring are unique, often misleading and hence deserve reporting. These injuries distinguish themselves from others due to their special characteristics such as muscular tearing, several wound paths, introduction of foreign bodies, discrepancy between the apparent and actual wounds, and massive inoculation of germs. A distinctive feature of domestic bull horn injury is the prolapse of bowel through the abdominal wall is common but is rarely associated with damage to or perforation of the intestine itself. In cases as these, early referral, resuscitation and thorough assessment of such patients in the emergency department by the ER Physician leads to better outcomes in saving lives which makes THE ER PHYSICIAN THE LIFE SAVER. Bull horn injury presents as a variety of bizarre and complex wounds Majority of the patients affected with bull gore injury was found to be males and the most common body part affected was trunk. Overall mortality was found to be 6% in our hospital and it was observed that early hospitalization of injured patients followed by rapid resuscitation, improved patient outcome during an epidemiological study in our hospital. Herein reporting a special case of a 70year old male with alleged history of bull gore injury over the posterior aspect of chest and abdomen exposing ribs, lungs, liver and diaphragm and multiple injuries over the head and other extremities. Patient was aggressively resuscitated according to ATLS guidelines with Tetanus vaccines, IV fluids, massive blood transfusion, Board septrum antibiotics and Bilateral ICD were

placed and shifted to Operating room.

#23653 : The Bulgarian emergency medics and the challenge epidemic COVID-19

Authors:

Desislava Katelieva (1), Lora Georgieva (2)

1. NGO, BEMSA, Sofia, Bulgaria

2. Medical University of Varna, Department of Social Medicine and Healthcare Organization, Varna, Bulgaria

Keywords: Emergency care, pathogen-carrier, COVID-19

Abstract :

Background: Two months after the start of the epidemic of COVID-19 in the European Union Bulgaria is among the countries with the lowest number of diseased and deceased people of 1 000 000 population. The measures taken by the Government and the emergency medical teams have both contributed to this positive outcome. Unfortunately, over 1 50 (11%) of all the infected with COVID-19 Bulgarian citizens are medical workers, most of which working in emergency medicine. A study was conducted in the emergency care system to determine the readiness to work in epidemic environment and concomitant problems.

Methods: A survey was conducted for the period 30.03–28.04.2020 among 154 emergency medics, 106 (69%) of the outpatient and 48 (31%) from the hospital emergency care. The information was obtained through a electronically based questionnaire via the social network. The main objective was to examine the problems and assess the readiness of emergency teams to work during the first month of the epidemic. The second goal was to establish how many of the emergency medics were tested after contact with COVID-19 patients and how many of them had symptoms of viral disease by the end of the first month.

Results: The majority of respondents (136; 88%) report that they don't feel protected during the epidemic. The reasons are as follow: 89 (58%) indicate they were not well trained to dress and undress personal protective equipment, 130 (84%) were not satisfied with the quality of the protective equipment, 124 (81%) wear the same masks repeatedly, 123 (80%) lack protective goggles, 109 (71%) lack protective shields. Besides the deficit of protective equipment, 115 (75%) need additional training to work with COVID-19 patients. Respondents emphasize on organisational difficulties in diagnostics (115; 75%) and hospitalisation of these patients (99; 64%). It was found that during the first month of the epidemic emergency medics, in contact with proven COVID-19 patients, were not tested. Only those who were without protective equipment were subjected to quarantine. One third of the emergency teams in Sofia have antibodies against COVID-19 but only 13 of them have an active infection, due to the absence of pronounced disease symptomatology and late testing. Subsequently, many families, visited by these teams were tested to exclude the likelihood that they had infected them.

Discussion & Conclusions: Working in the context of the COVID-19 is a serious challenge for emergency care in Bulgaria. Reasons for this are the high risk of contamination, workload, stress, insufficient protection, shortage of human and material resources, late testing of medical staff. The constant change in the epidemic environment, inadequate initial training and organisational

uncertainties have caused serious difficulties in the work of emergency teams. The earlier identification of the infected medics is essential to prevent them from becoming pathogen-carriers. Despite these initial problems, the outpatient and hospital emergency teams have become a reliable filter to prevent the spread of the infection.

#23654 : Spontaneous Spinal Epidural Haematoma in Emergency Department - A rare presentation.

Authors:

Shiraz Siddiq Ali (1), Natasha Paramanathan (1), Peadar Gilligan (1)

1. Emergency Medicine, Beaumont Hospital Dublin, Ireland, Dublin, Ireland

Keywords: Spine, Thoracic Spine, Epidural Hematoma, Back Pain, Hemorrhage

Abstract :

Brief Clinical Hx: A 43 years old male with background history of three lumbar discectomies and hypertension was brought in by ambulance with complaints of sudden onset of severe non-traumatic upper back pain and neck pain while he was cleaning windows of his home. This was associated with dizziness. Pain gradually got worse started radiating to both arms and involves the central chest area with central chest tightness and heaviness within 20 minutes of onset. There was no shortness of breath, no nausea, no vomiting, no blurred vision, no headache, no aggravating and relieving factors. Examination revealed mild tenderness along upper thoracic spine, rest of the exam was normal apart from blood pressure which was 165/112mmHg. Patient received GTN & Morphine for chest pain. After 2 hrs in the department he started complaining of slurred speech, expressive dysphasia and a stroke call was sent out. CT brain, CT Angiogram Arch Carotids and Intracranial performed which was reported as normal. Immediately MRI Brain, MRI Neck & MRI cervicothoracic spine performed looking for posterior circulation or spinal stroke. MRI reported an epidural hematoma extending from C7 to T3 compressing the ventral aspects of thoracic cord.

Misleading Elements: Initial presentation was consistent with acute coronary syndrome or vascular dissection where he developed sudden severe upper thoracic back pain radiating to both arms and chest. There was no neurology at presentation. Later he developed expressive dysphasia which expanded the differential to include stroke.

The initial imaging which included CT head and CT angiogram of aorta and carotids where normal.

Helpful details: Patient was hypertensive and had Romberg's sign on exam suggestive of posterior circulation stroke which triggered the decision to do an urgent MRI brain, neck and cervicothoracic spine. MRI revealed the actual diagnosis of extensive spontaneous haematoma and the patient was referred to the Neurosurgical team.

Differential: Acute Coronary Syndrome, Vascular Dissection, Stroke.

Actual Diagnosis: Spinal Epidural Hematoma.

Educational / Clinical relevance: Spontaneous Spinal Epidural Hematoma is a rare neurosurgical emergency which is often difficult to diagnose in emergency department and can cause permanent neurological deficits if delayed or misdiagnosed. Spontaneous epidural hematomas are very rare and account for less than 1% of all spinal space occupying lesions. The incidence is 0.1 in 100,000 per year. They are associated with coagulopathies or arteriovenous malformations. These can lead to devastating neurological damage if not diagnosed and treated in time. We are presenting a case here which was initially investigated for cardiac events, posterior circulation stroke v arterial dissection but all the investigations were normal. This was followed by MRI brain, neck and cervicothoracic spine that showed SSEH. The target of this case presentation is to emphasize the consideration of this rare neurosurgical emergency in differential diagnosis to avoid misdiagnosis in patients who presents with sudden onset on cervicothoracic back pain which radiates into upper limbs bilaterally, neurological deficit, history of previous discectomy or on anticoagulation. Physicians should consider MRI scan as choice of imaging in such cases.

#23656 : Chest ultrasound in covid19 era: a retrospective analysis of forty-three patients evaluated from april 1st to april 25th at civico hospital in lugano, switzerland.

Authors:

Premila Kamler (1), Sibilla anna teresa Salvadeo (2), Carlo Maino (1), Marco Panzeri (1), Greta Jeanne Cattaneo (1), Enrico Carlo Zucconi (1), Claudio Carnevale (1), Marco Marando (1), Emanuela Zamprogno (1)

1. Emergency Department, Ente Ospedaliero Cantonale, Lugano, Switzerland
2. Emergency Department, Ente Ospedaliero Cantonale, Montagnola, Switzerland

Keywords: covid19, ultrasound, retrospective analysis

Abstract :

Since the beginning of COVID19 pandemia, scientific societies reviewed the useful role of Chest Ultrasound (US) in patients with interstitial pneumonia from COVID19. In the Emergency Department (ED) of Civico Hospital in Lugano (TI, CH) US has been employing as a first bed-side step of chest imaging in suspected COVID19 patients. Our aim was to evaluate chest US images and CT results in patients with high suspicion of COVID19 and to assess the clinical outcome of patient discharge from ED after US evaluation. We analysed also the time of staying in the ED, as a secondary outcome. We performed a retrospective observational analysis of first consecutive 43 patients, considered suspected for COVID19, evaluated in a military tent of the ED of Civico Hospital during 25 days of COVID19 Pandemia. Forty-three consecutive non severe ill patients, 19 males and 24 females, 20 to 89 years old, evaluated in the ED for suspected COVID19 between 01.04.2020 to 25.04.2020, underwent a chest US, performed by a skilled emergency physician. Patients data and vital signs and were registered by a nurse at a first triage tent. Chest US images were available in a hard-copy form and results were reported assigning a score calculated on numbers of areas interested and type of abnormality. Tomography results were registered and evaluated using CORAD-S system of examination. Average age of patients was 49,6 years; all 43 patients underwent a chest US examination: 28 (65%) patients had a completely normal US with 0, while 15 (34%) patients presented abnormalities at US. Among the 19 patients (44%) who underwent a chest CT 11 (25,5% of total) resulted CORADS 1 and, among them 8 (72%) presented positive US. We found no patients with a CORADS 2 score; 3 patients were CORADS 3 (6,9%) and, among them, we found 2 patients (66%) with US abnormalities. No patients received a CORADS 4 score. Five Patients received CORADS 5 (11,6%) score and among them all (100%) presented US abnormalities. No patients were found to have a CORAD 6 score. The average time in ED was 3 hours: 02h10m for US vs 04h04m for US+CT. Six patients presented a P/F < 40 KPa at arrival: all had US (100%) 2 patients (33,3%) were discharged without readmission and 4 (66,6%) patients were admitted to a non-intensive ward. Conclusions: as in recent studies, in our experience we found that US is comparable to CT especially for the high grade of abnormalities, reduces the time of staying in ED, thus reducing exposure of patients and workers to viral infection. Use of US appears safe since we had a very low rate of re-admission for patients who were discharged according to US results and without respiratory impairment. Limits are the retrospective structure of the study and the small number of patients. Anyway, this first analysis is a starting small study useful for further investigation of a possible role of simple algorithms to discharge or admit of patients with COVID19 evaluated in EDs. Ethic: not needed. Informed consent obtained.

Trial Registration / Funding Information (only) :

Trial has not a registration There is no Funding

#23657 : A way to avoid COVID-19 spreading within the Emergency Department and the whole Hospital

Authors:

FRANCESCO PRATTICO' (1), Carmen Tozzo (1)

1. Pronto Soccorso H. Mater Salutis Legnago (VR), AULSS 9 Scaligera Regione Veneto, Legnago, Italy

Keywords: outbreak, COVID-19, ED organization

Abstract :

The novel corona virus pandemic started in China around the end of November 2019 and progressively spread throughout many countries, especially in the temperate zone of the boreal hemisphere. It is possible that the virus was already circulating in Italy from the second half of January, but the first cases were diagnosed only a month later.

The health emergency due to the massive influx of patients with acute respiratory syndrome related to COVID-19 pandemic has led the Italian National Healthcare System to a deep reorganization such as the implementation of ICU beds and respiratory semi-intensive care unit beds and even in ED, which was still assisting patients affected from other serious illnesses, such as AMI, Stroke, Trauma, etc.

This impacted locally all health facilities, even in our ED; it was necessary to rethink patients care pathways to try and reduce effectively the contamination among patients and between patients and health workers. Our Hospital has 400 beds and has all different specialties, except Neurosurgery, Cardiac Surgery Ward and the Burn Unit and moreover is hub for Strokes and AMIs. The ED has a short stay observation of 10 beds, where patients can stay for a maximum of 48 hours, before being hospitalized or discharged.

The ED was drastically changed through the ingenuity and effort of the health professionals that work here, following the regulations of the Ministry of Health. The solutions introduced by us allowed to redefine the patients management guaranteeing their safety and a prompt response.

A triage point was made "at the door" to make a first filter, followed by a "dirty" or "clean" pathway. Other isolation spaces have been identified in ED to guarantee the correct care to fragile and/or critical patients in addition to the four marquees installed outside the ED by the Civil Protection Department.

Our Observation Unit has been closed because is an open space, unsuitable for this type of patients, since everyone can be contagious because we don't know who is positive or not.

A COVID-Observation Unit was put in place, with 23 isolated beds, previously dedicated to other care units, in which it was possible to start early high flow oxygen therapy, CPAP and NIV while waiting safely for the exams result, for the best outcome for the patient. In this Unit we treated 331 patients from the 10th March to the 29th April of which only 4 died.

All of this required the development of human and technological resources, that were changed in a short period of time to increase the level of care.

This high levels of protection garanted only few COVID-19 cases within healt workers (4 cases on around 80 employees) and no contagious cluster within patients.

The patient's average time in the ED decreased from around 16 hours, in the first phase, to around 2 hours after the introduction of the COVID-Observation Unit, increasing patients comfort and at the same time accelerating the access to the right treatment.

#23658 : FALSE FRIEND: A flawless imitation of a stroke

Authors:

Güendolina Fernández Fernández (1), Estibaliz Fonseca Castresana (1), Irene Ruiz Miñano (1), Guillermo Moreno Montes (1), Alba Llario Angel (1), Jemima Jolina Tope Love (1), Alexandra Milan Mestre (1)

1. Emergency Room, Hospital Universitario de Torrevieja, Torrevieja, Alicante, Spain

Keywords: Stroke mimic, fever, pneumonia

Abstract :**INTRODUCTION:**

Stroke mimics is a term indicating a pathological condition that shows a stroke - like clinical picture due to a symptom caused by a different diseases.

BRIEF CLINICAL HISTORY:

Our patient is a 76 years old German man that was admitted in the Emergency Room with code stroke and the following symptoms: dysarthria, left hemiparesis and left-sided facial weakness for about one hour and a half. Medical history of arthritis, type 2 diabetes mellitus and dyslipemia, ex-smoker, no high blood pressure.

Symptoms started when the patient was on the beach, so his high fever was unnoticed. The language barrier hindered an efficient anamnesis. On arrival, his temperature was 40°C, so paracetamol was administered thus neurological symptoms disappeared. With the help of a translator, the patient reported yellowish runny nose with productive cough for two days, treated with paracetamol .

Fever in the elderly with comorbidities may produce neurological disorders and, in a small percentage of cases, be similar to a stroke.

PHYSICAL EXAMINATION:

- 40°C, BP 175/100 mm/Hg, HR 110 bpm, BR 25, O2 saturation: 95%
- Dehydrated, normal-colored, obese.
- Cardiopulmonary auscultation: Systolic murmur, wet crackles in both bases.
- Abdominal examination: soft and depressible, no masses, no megaly, bowel sound present.
- Neurologic examination: Conscious and oriented, dysarthria, left hemiparesis, left-sided facial weakness

ADDITIONAL TESTS

- Blood test: leukocytosis with neutrophilia 10.3; CRP 20; procalcitonin 5, Pneumococcal Antigen positive.
- Cranial CT scan: rules out acute/subacute intracranial pathology.
- Thorax X-ray: alveolar infiltrates in both lung bases.
- ECG: sinus rhythm, 85bpm, left hemiblock, no signs of ischemia

DIFFERENTIAL DIAGNOSIS:

Ischemic stroke, space-occupying lesion of the brain, traumatic brain injury, migraine, hypoglycemia, electrolyte and/or acid-base balance disturbances, hypertensive emergency and neuropathy.

Clinical judgement

1. Sepsis due to pneumococcal pneumonia.
2. Stroke mimic

CONCLUSIONS

The patient was admitted into Internal Medicine Service to complete pneumonia treatment and neurological study, suspecting transient ischemic accident (TIA). An echo-doppler of supra-aortic trunks, electrocardiography and cranial CT scan were requested after 48 hours, all being normal.

No signs suggesting TIA were found and neurological symptoms disappeared once fever was under control. Stroke mimics was confirmed as final diagnosis.

Between 8 -12% of code strokes that arrives to the Emergency Room turn out to be with stroke mimics. The differential diagnosis of a stroke-mimic is really large, being the most frequent causes epilepsy and systemic infections. It is essential to achieve an adequate medical history and accurate physical Examination, since fibrinolytic therapy may trigger serious bleeding events in patients suffering stroke mimics. Treating the cause, as in this case, makes the neurological symptoms disappear.

In clinical practice, it is difficult to make this kind of decision as it is a serious disease in which a delay can lead to severe neurological sequelae. Nevertheless, to rush and apply aggressive treatments to a patient without a stroke can cause serious bleeding problems as well. Thus, it is fundamental to be thorough and consider a wide range of differential diagnoses before reaching clinical judgement and subsequent therapeutic management.

Attachment: lctus.pdf

#23660 : From one life threatening condition to another: rapid progression of necrotising soft tissue infection

Authors:

Jasmin Hamzic (1), Sanja Delovski (1), Antonio Hanzek (1), Dinka Lulic (1), Lea Miklic (1), Ivan Gornik (1)

1. Emergency department, University Hospital Zagreb, Zagreb, Croatia

Keywords: Emergency department, NSAID, necrotizing fasciitis

Abstract :

A 38 years old patient presented in emergency department with sudden onset of dyspnoea and altered mental status. During the ABCDE exam multiple point of care ultrasound were made. Patient didn't have echo signs of pulmonary embolism. No pneumothorax was found. Patient had swollen left leg, with uncompressible femoral vein. Pulmonary angiography was negative for pulmonary embolism. Due to hemodynamic instability patient was admitted to ICU after resuscitation in emergency department. Secondary ultrasound of leg showed some echo signs of soft tissue infection, and afterwards CT scan of thorax, abdomen and legs was made, which showed fascial thickening, soft tissue gas in left leg, with progression in abdominal cavity. In next 18 hours patient underwent three surgical procedures, but in spite of efforts die due to the septic shock and multiple organ failure. During that time, we found out that patient had back pain for a few days before he presented to emergency department, and he received multiple non-steroids injections in deep muscle part of left buttock. That was probable entry f infections, and in this paper, we will review literature in topic how NSAID can potentiate progression of necrotising fasciitis and deep tissue infections in some patients.

#23661 : ED flexibility during COVID-19 outbreak

Authors:

Ivan OPPEDISANO (1), Federico ZANARDI (1), Alessio MARRA (1), Andrea DUCA (1), Valentina Diana ROSTI (1), Alberto GIANNONE (1), Andrea ALESI (1), Giovanna OBERTI (1), Irdi MEMAJ (1), Carlo PRETI (1), Lorenzo DELLA BELLA (1), Roberto COSENTINI (1)

1. MD, EAS, Papa Giovanni XXIII Hospital, Bergamo, Italy

Abstract :

BACKGROUND

In our Emergency Department (ED) between the end of February and the first week of March we experienced a rapid increase in the number of patients with suspected SARS-CoV-2 infection. Many of them were symptomatic for a range of respiratory symptoms, from cough and mild dyspnoea to acute severe respiratory distress. To handle this massive number of patients we had to reallocate human resources and equipment, and also to reorganize completely our ED. In this study we will describe how we responded to the COVID-19 challenge.

METHODS

First of all, we created two different pathways ("clean" and "dirty") and we updated the epidemiological-based checklist to a clinically based checklist, in order to better identify patients with suspected SARS-CoV-2 infection. Second, we setup two different areas (COVID and COVID free) for triage activity. During the first week of SARS-CoV-2 epidemic, the number of suspected COVID-19 patients raised to a maximum of 148 per day. We had to reorganise our ED in order to extend COVID-areas. The number of respiratory critical patients raised, so we identified three respiratory areas with different intensity care: 1. We dedicated an area with 20 beds, previously closed and used only in case of mass causality events, to COVID-patients necessitating non-invasive ventilatory support (Continuous Positive Airway Pressure, CPAP or Non-Invasive Ventilation, NIV); 2. We also split our Resuscitation Room in two areas: one for intubated COVID-patients and the other one for no-COVID critical patients; 3. We converted our Observation Unit and Acute Medical Ward to a boarding Area, for COVID-patients waiting for an internal ward admission and requiring oxygen supply. Eventually we dedicated the Ortho Waiting Room to a COVID free area for no-COVID patients not requiring high intensity care. During this phase we rescheduled our shifts, and we increased the total number of physicians and nurses. After the Italian Government intervention of lock-down, we experienced a reduction in the number of patients with suspected SARS-CoV-2 infection, so we had to restore some of the clean-areas. In order to properly manage COVID and no-COVID patients we created two specular EDs, with two separated resuscitation rooms and each one with its own intermediate intensity area.

RESULTS

To date, we have seen in our ED 2807 COVID-patients and 1194 have been hospitalised. Our staff also managed about 400 patients with acute respiratory failure, about 150 of them have been treated with non-invasive respiratory support. Between February 29th and April 23rd, the mean boarding time was 18.2 hours, and in the critical patients' subgroup the mean boarding time was 20.3 hours.

DISCUSSION

Our reorganisation allowed the ED staff to handle up to 183 patients during the most critical day (the 16th of March), 146 of them with COVID infection. We believe that our experience could suggest how flexibility in ED organization can be helpful to manage stress-testing situations. We hope this kind of flexibility could help us to deal with the challenges that the near future will bring us.

#23662 : Do patients with stroke benefit from installing stroke specific triage system in emergency department?**Authors:**

Seyed Hossein Hosseini Davarani (1), Amir Nejati (1), Houman Hossein Nejad (1)

1. Emergency Department, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran

Keywords: Stroke; Emergency Medicine Service, hospital; Patient care management; Triage, Stroke Specific Triage System

Abstract :

Introduction: Stroke, which can be hemorrhagic or non-hemorrhagic and either benign and self-limited or life-threatening, needs appropriate diagnosis and treatment in the emergency department (ED). The aim of this study was to compare the delivery time of primary care for patients with signs and symptoms of stroke before and after applying stroke-specific triage system (SSTS) in ED.

Methods: Medical records were reviewed of twenty-one patients (group I) with a chief complaint related to stroke who referred to ED between April and August 2019 (before installing SSTS) and twenty-three patients (group II) with the same chief complaints who referred between September and December 2019 (after installing SSTS). The time between patients' arrival and beginning of diagnostic and therapeutic interventions including cardiac monitoring, first physician visit time, intravenous line insertion, and Brain CT scan and ECG performance was compared between the two groups.

Results: Based on the findings, the mean age and sex ratio of studied patients in the two groups were not significantly different ($p=0.33$). Door to Brain CT scan performance, Door to ECG performance, Door to intravenous line insertion, and Door to cardiac monitoring were significantly shorter in post stroke-specific triage installing period than previously ($p<0.01$). Door to first visit by a physician was not statistically different in the two study periods ($p=0.421$).

Conclusion: It is likely that patients with signs and symptoms of stroke who referred to ED benefit from installing SSTS in terms of performing some physician and nursing care including Brain CT Scan and ECG performance, starting cardiac monitoring, and IV insertion.

Trial Registration / Funding Information (only) :

This study was supported by Tehran University of Medical Sciences and founded by Prehospital and Hospital Emergency Research Center/Tehran University of Medical Sciences. Ethical permit issued by Ethical Committee of Tehran University of Medical Sciences.

#23663 : Minor Neck Trauma Lead to Diagnosis of CS Epidural Phlegmons(Brucellosis)

Authors:

Mhd Fateh Khaznawi (1)

1. Emergency Department, Hamad Medical Corporation, Doha, Qatar

Keywords: Minor Neck Trauma,CS Epidural Phlegmons, Brucellosis,khaznawi.Mhd Fateh

Abstract :

Brief Clinical history : 28 years old male patient presented to ED c%o : neck pain - shoulder pain and numbness associated with Fever and Cough , with history of mild neck trauma due to mild rear end MVC , no other complaints , patient was stable - x-rar and blood investigations were inconclusive - CT Scan showed Degenerative changes and C5 Suspected ersoin , discharged home ,then after 2 days acme with worsening the symptoms , and later he developed neurological findings (weakness upper and lower limbs with numbness and tingling) , with urinary retention , MRI Done which showed Epidural abscess due to brucellosis infection , patient under went surgery for decompression , after 4 months he perfect clinical outcome

Misleading elements : history of Road traffic accident - neck trauma due to mild rear end MVC

Helpful details : CT Scan finding - with Fever - MRI Done earlier - neurosurgery on board

Differential and actual diagnosis : Neck trauma - epidural abscess due to Tuberculosis - brucellosis

Educational and clinical relevance : always in ED think widely and always try to make a link between all signs and symptoms and for sure the importance of clnical history and physical examination

Attachment: Khaznawi Case Report EuSEM 2020.ppt

#23665 : What could go wrong: tension pneumothorax following acupuncture procedure**Authors:**

Jasmin Hamzic (1), Iris Cerfalvi (1), Tomislav Knotek (1), Ivan Gornik (1)

1. Emergency department, University Hospital Zagreb, Zagreb, Croatia

Keywords: Pneumothorax, acupuncture, emergency department

Abstract :

A 75 years old patient was escorted with medical in-hospital emergency team to emergency department due to sudden onset of dyspnoea. Patient was seen in pain clinic due to chronic problem with right shoulder. She was seen there by anaesthesiologist, who decided to perform acupuncture of left posterior shoulder/scapular region. Few minutes after procedure patient became dyspnoeic, and MET was called to assess the patient. She was immediately moved to resuscitation area, and during the primary exam point of care ultrasound showed right side pneumothorax. Patient was hemodynamic unstable, so soon after ultrasound patient received 12Fr percutaneous thoracic drain. After the procedure patient problems resolved, her SaO₂, work of breathing, respiratory rate, blood pressure and heart rate normalised. Patient was admitted to thoracic surgery clinic, and after few days she went home with no further problems in follow up time. There isn't much literature on this problem, and emergency medicine doctors should be aware of this complication following acupuncture.

#23667 : Structured medication reconciliation by clinical pharmacists in the Emergency Department: a prospective interventional study.

Authors:

Linde Van Cauwenberghe (1), Saskia Van Kemseke (2), Ellen Oudaert (2), Stephane Steurbaut (3), Ives Hubloue (4)

1. Centre for Pharmaceutical Research, Vrije Universiteit Brussel, Brussels, Belgium
2. Pharmacy Department and Emergency Department, University Hospital Brussels, Brussels, Belgium
3. Pharmacy Department, University Hospital Brussels, Brussels, Belgium
4. Emergency Department and Research Group on Emergency and Disaster Medicine, University Hospital Brussels, Brussels, Belgium

Keywords: Emergency Department, clinical pharmacist, medication discrepancies, medication reconciliation, best possible medication history, referral letter

Abstract :

Background. The Emergency Department (ED) is a high-risk setting for the occurrence of medication discrepancies due to discontinuities between real and documented chronic drug therapy. Patients older than 65 years with polypharmacy (defined as 5 or more medications daily) are the most vulnerable group. A clinical pharmacist (CP) dedicated to the ED can improve medication safety by performing a structured medication reconciliation (MR) on admission.

Objective. The main study aim was to identify the frequency and type of medication discrepancies in chronic drug therapy by structured MR on ED admission. This was performed by a CP in order to obtain the best possible medication history (BPMH). A second objective was to investigate and analyze the medication discrepancies in the general practitioners' (GP) referral letter.

Setting and Methods. This prospective, single-centre, interventional study was carried out in the ED of a tertiary care university hospital in Brussels, Belgium. Inclusion criteria: patients ≥ 65 years with polypharmacy, admitted to the ED between 8 AM and 4 PM on weekdays and who gave their informed consent. In the period 12/2019–03/2020, the CP carried out a structured MR on ED admission and registered all medication discrepancies. These data were compared with the documented chronic therapy and with the general practitioners' referral letter. Statistical analysis was done using Graphpad Prism[®] 6.0.

Results. During 24 weekdays, the CP had carried out a structured MR for 83 patients. A significant difference in the median number of drugs was found after MR performed by the CP compared to the documented number of drugs (8 [IQR 6–11] vs. 7 [IQR 5–11]/patient; $P < 0.0001$). The documented chronic drug therapy had a median of 5 (IQR 3–8) discrepancies/patient. Most frequently observed discrepancies were drug omission (38.8%), additional drug (18.4%) and a different drug administration time (15.2%). Furthermore, only for 22.9% ($n = 19$) of the patients the chronic drug therapy was documented in GPs' referral letter on admission. We also found a significant difference in the median number of drugs after MR performed by the CP compared to documented number of drugs in the GPs' letter (8 [IQR 7–11] vs. 6 [IQR 4–9]/patient; $P < 0.0001$). Main discrepancies with the GPs' letter concerned drug omissions (39.9%), a deviant drug frequency (35.3%) and drug dose (16.7%).

Conclusion. A CP, integrated in a multidisciplinary ED team, enhances medication safety by intercepting discrepancies in the documented chronic drug therapy on admission to the ED. Unfortunately, few

patients possess a GP's referral letter containing information on chronic drug therapy. Moreover, the quality of this letter in terms of accuracy and comprehensiveness of chronic drug therapy is poor because of the high number of medication discrepancies.

#23668 : Epidemiology and Outcomes of Venous Thromboembolism in an Irish Major Trauma Population**Authors:**

Emma-Louise Rogers (1), Timothy Balfour (2), Emma-Louise Rogers (2), John Cronin (2)

1. , St Vincent's University Hospital, Dublin, Ireland

2. Emergency Department, St Vincent's University Hospital, Dublin, Ireland

Keywords: venous thromboembolism, pulmonary embolus, deep venous thrombosis, trauma, TARN

Abstract :**Objectives**

To describe the incidence and epidemiology of venous thromboembolic disease (VTE) in major trauma patients.

Methods

Retrospective, descriptive study of adult major trauma patients eligible for inclusion in the Trauma Audit and Research Network (TARN) registry presenting to a tertiary referral university hospital in Dublin, Ireland between August 2013 and September 2018. Data collected included patient demographics, nature and severity of injury, timing of radiologically confirmed VTE and effect on morbidity and mortality. VTE was categorised as immediate (identified at presentation), early (within 72h of presentation) and late (after 72h from presentation up to 6 months from initial injury).

Results

2,131 TARN-eligible patients were identified. 105 were excluded due to missing information. 1,017/2026 (50.2%) were female. The mean age was 65.2 years (standard deviation {SD} 21.9). The overall median injury severity score (ISS) was 9 (interquartile range {IQR} 1-54). "Falls less than 2 metres" was the most common mechanism of injury (n=1,311, 64.7%).

A total of 75 (3.7%) patients developed VTE. 30 (1.5%) were diagnosed with a pulmonary embolus (PE) and 48 (2.4%) were diagnosed with deep venous thrombosis (DVT). Only 3 patients had both a DVT and PE.

Patients diagnosed with a VTE were older with a mean age of 71.6 (vs 64.9, $p < 0.05$). Their median ISS was 10 (IQR 9-17), compared to 9 (IQR 9-17) for the non-VTE group.

The median days to PE (from date of injury) was 16 (IQR 5-50), with 2 identified at presentation, 2 early and 26 late. The median days to DVT 28.5 (IQR 13.5-56) with 1 immediate and the remaining 47 late.

Patients diagnosed with VTE had significantly longer inpatient length of stay with a median of 29 days (IQR 14-78) compared with 10 days (IQR 6-21) for the non-VTE group. Seven patients (9.3%) in the VTE group died (2 (4.1%) who had a DVT, 5 (17%) PE) compared to 97 (5.0%) in the non-

VTE group.

Discussion

Our study showed a lower incidence of VTE compared to that previously published for the major trauma population. Patients with a VTE were older and had a higher mortality and longer length of stay.

#23669 : Determining the equivalence of currently most used methods for evaluating cardiopulmonary resuscitation performance**Authors:**

Fabian Dhondt (1)

1. , , Herent, Belgium

Keywords: CPR, BLS, electronic feedback, BLS teaching

Abstract :

Determining the equivalence of currently most used methods for evaluating cardiopulmonary resuscitation performance

Introduction

The different critical elements that make for good quality cardiopulmonary resuscitation (CPR) are listed in the 2015 International Consensus on Cardiopulmonary Resuscitation. The different characteristics of CPR about which evidence based recommendations were made are: rate of compressions, depth of compressions, hand position, the minimalization of pauses and the compression-ventilation ratio. Our educational institutions are burdened with the duty of teaching CPR to those that need to know it. Also there is a need to evaluate whether the acquisition of knowledge and skill during training was adequate. Any method to evaluate the skills that make for high quality CPR should be optimised to evaluate the different characteristics set out in the 2015 consensus. Traditionally the most used method for evaluating CPR performance is an observer/instructor-led method, where the examinee is evaluated by observing the execution of the different steps that CPR is comprised of. In recent years the use of an electronic feedback system has become more widely spread.

In recent literature we found evidence for the current use of both methods. At our educational institution we changed the way we evaluate CPR performance from an observer only method to a method making use of an electronic feedback system. We performed a retrospective analysis of the test results to find out if the results produced using the two methods were comparable.

Methods

We performed a retrospective analysis of the test results of medical students being evaluated on their CPR performance. We compared tests taken in the year 2016 to tests taken in 2017. In 2016 885 students were evaluated using the single observer method. In 2017 715 students were evaluated by a method using electronic feedback. For this method a QCPR manakin and the Laerdal skill reporter® software were used. In both years students were evaluated on hand placement, rate of compressions, depth of compressions and adequacy of ventilations. Since 2016 data was binary and 2017 data was expressed as percentages, the data from 2017 was converted to being binary in a standardised manner to allow for a fair comparison. Thus two sets of binary scores were generated and the students' performance on each different parameter could be compared between the two years.

Results

Students who were evaluated using electronic feedback scored worse on all the parameters measured when compared to students who were evaluated using an observer only method. Overall scores were worse for students evaluated using the electronic feedback method. Specifically on the depth of compressions and the volume of ventilations the difference in score was very different using these two methods of evaluation.

Conclusion

We compared the scores produced using two different methods for evaluating the adequacy of the performance of CPR in medical students. We found the scores produced by a method using electronic feedback to be significantly different from an observer only method. More research is needed to determine which method is to be the gold standard.

#23671 : 'SIM'ULTANEOUSLY TRAINING EMERGENCY PHYSICIANS AND INTENSIVISTS**Authors:**

Victoria Claire Meighan (1), Patrick Conroy (2)

1. Emergency Department, Tallaght University Hospital, belfast, Ireland
2. , Tallaght University Hospital, Dublin, Ireland

Keywords: simulation based medical education

Abstract :

Title

'SIM'ULTANEOUSLY TRAINING EMERGENCY PHYSICIANS AND INTENSIVISTS

Background

High fidelity simulation based medical education is becoming increasingly popular for technical and non-technical skills training. Deliberate practice allows mastery of technical skills combined with non-technical skill/ 'human factors' training. Simulation appears beneficial for trainees to achieve knowledge based learning outcomes however, it is difficult to prove a causal relationship. Critical care in the ED involves a close working relationship between emergency physicians and Intensive Care doctors. Doctors rotate departments and teams nearly six monthly so familiarisation with a new department, equipment and team is very important for effective safe critical care in the emergency department setting. We were interested in examining the role of simulation based medical education for staff/team, equipment and environment familiarity in our urban Emergency Department.

Aims

We introduced a series of three standardised multidisciplinary simulation based training sessions designed to familiarise the Emergency Department staff (medical and nursing) with the Intensive Care Unit staff (medical and nursing). Each 90-minute session involved deliberate practice in the ED setting, interaction between staff and a clinical debriefing session. The sessions were themed to reflect clinical practice: - 1. Sepsis, 2. Airway and Difficult Airway and 3. Major Trauma Management.

Methods

Staff were surveyed on their familiarity with the department, equipment and team pre-and post-simulation based medical education session.

The survey was piloted on 10 people to eliminate ambiguous questions.

The survey was conducted electronically and was anonymous. Each staff member completed the questionnaire once.

Results

We achieved a 100% response rate (n=22).

98% of staff felt they would be more comfortable and confident in an emergency situation having met the staff they would be working with.

96% felt more familiar with the layout of equipment having practiced.

0% had received familiarisation training in any other institution.

98% felt this would make emergency situations safer and less risky.

Conclusion

Simulation based medical education is becoming increasingly popular for technical and non-technical skills training. We hypothesized that interdepartmental in situ simulation based medical education could be useful for familiarising staff with each other, equipment and the environment they would be working in, together in emergency situations, thereby improving team working skills and safe, effective patient care. Feedback was universally positive and 100% expressed an enthusiasm for future and further multidisciplinary simulation training.

#23672 : DOING THE DEBRIEF DESPITE BARRIERS**Authors:**

ciara murphy (1), Victoria Claire Meighan (2)

1. Emergency Department, Tallaght University Hospital, Dublin, Ireland
2. Emergency Department, Tallaght University Hospital, belfast, Ireland

Keywords: debriefing education

Abstract :

Background

Debriefing is defined as a facilitated or guided reflection in the cycle of experiential learning. The ultimate goal of clinical debriefing is to assimilate improved behaviours or actions and transfer them into routine practice. Debriefing is widely accepted and recommended yet there are considerable barriers to doing regular clinical debriefing in real life settings.

Particularly in busy Emergency Departments (ED's) there is often limited time and space to perform a debrief. We hypothesized that we could adjust our current debriefing proforma and model it on the Edinburgh Royal Infirmary hot debriefing tool entitled "STOP".

Aims

We aimed to

1. Audit the frequency of clinical debriefing of resuscitation cases within our ED.
2. Determine barriers to implementing the clinical debriefing tool.
3. Introduce an amended clinical debrief tool to our ED.

Methods

We performed a retrospective audit of resuscitation cases having had a clinical debrief performed between July 2019 and December 2019 inclusive.

We then surveyed our staff to find out what barriers they thought existed to implementing the existing debrief tool and how we could overcome them.

We summated that evidence to create a new debriefing tool for implementation in our ED.

Results

Between July and December 2019 5% of resuscitation cases had a clinical debrief proforma filled out and discussed at our monthly departmental morbidity and mortality meeting.

On survey staff stated barriers for implementation as time, space, attitude, consultant lead drive, morale, overcrowding and temporary or locum staff.

Suggestions included making the clinical debrief short, hot and habit.

Conclusion

Clinical debriefing is recommended to improve performance of teams and contribute to improved patient safety. Ideally, teams will reflect on a case immediately afterwards (a hot debrief) and identify what went well and targets for improvement in future performance.

There are multiple barriers to implementing a clinical debrief tool, namely time and space to do it. We audited our practice to determine if our current debriefing tool was being used. We performed a survey to involve staff in the creation of a bespoke Tallaght University Hospital hot debrief

tool. We are currently auditing the frequency of use of our amended debrief tool. Results pending. Due for completion June 2020.

#23673 : Validation of a re-usable high-fidelity ultrasound phantom for peripheral venous cannulation.

Authors:

Saleel Latheef (1), Ashley Matthies (1), Karl Chopra (1)

1. NHS, Homerton University Hospital, London, United Kingdom

Keywords: POCUS, ultrasound, teaching, peripheral cannulation,

Abstract :

Introduction: Ultrasound-guided peripheral venous cannulation is an increasingly used procedure in the Emergency Department, but is associated with a high number of cannulation attempts and early failure. Many commercial phantoms are expensive, have finite uses and often do not reproduce complex anatomy to allow users to improve their skill acquisition.

Aim: To produce a low-cost re-usable anatomically accurate phantom for peripheral ultrasound guided IV cannulation.

Method: A phantom was made with available affordable synthetic materials using no specialist equipment. The phantom had multiple veins with non-linear courses at varying depths. The phantom featured artificial nerves and arteries simulating in-vivo anatomy. Twenty-eight healthcare professionals (HCPs) with various ultrasound experience trialled this model. HCPs completed a questionnaire before and after using the phantom. Confidence with ultrasound-guided cannulation was calculated before and after using the phantom on a Likert scale of 1-5. The questionnaire collected data on how similar the phantom and its constituent parts were to an in-vivo human arm on ultrasound imaging.

Results: This method produced a low-cost phantom, which can be cannulated many times. This phantom could be used on multiple occasions following repeated cannulations by reheating the and re-setting the material in the mould. Globally the phantom was found to be lifelike (mean Likert rating 4.0/5). Artificial veins, arteries and nerves were also found to have a "very good" likeness to human ultrasound (mean Likert rating 4.11, 3.96 and 3.88 respectively). Training using this model significantly improved HCP's confidence ($p < 0.0001$). Significant changes in confidence were found in both HCPs who had no ultrasound-guided cannulation experience and in those with some experience, with p values of 0.005 and 0.0312, respectively. The model did not improve confidence in those with extensive experience of ultrasound-guided cannulation (>50 cannulations) or had previously completed basic ultrasound training.

Conclusions: It is feasible to produce a low-cost re-usable phantom with more complexity than existing models. The phantom produced in this study was shown to be a useful tool for teaching ultrasound cannulation to those with little or no previous experience.

#23674 : Building Blocks for faster better patient care

Authors:

Victoria Claire Meighan (1), emma may curran (2)

1. Emergency Department, Tallaght University Hospital, belfast, Ireland
2. Emergency Department, Tallaght University Hospital, Dublin, Ireland

Keywords: ultrasound guided regional anaesthesia

Abstract :

Fascia Iliaca nerve block with local anaesthetic is recommended to achieve safe and timely analgesia for patients with fracture proximal neck of femur. In our hospital, performing a fascia iliaca nerve block is part of our care pathway for patients when a fracture proximal third of femur is confirmed on x-ray. The national guideline for this block was developed in our department and all doctors receive training in how to perform it. With reconfiguration of trauma services in Ireland, our department is now receiving trauma bypass patients and we have had an average increase in presentations by three per week.

Use of local anaesthetic minimises the requirement for opiate analgesics which can cause significant adverse events in this patient population. Delays in delivering a nerve block can mean patients are given opiate analgesia in the interim period until a nerve block can be given.

Aims

We aimed to

1. Audit current practice in our department in delivering pain relief including fascia iliaca nerve block to patients presenting with proximal third of femur fracture.
2. Identification of factors delaying nerve block delivery.
3. Introduce a designated fascia iliaca nerve block trolley to our department that contained a hand-held ultrasound and all the equipment necessary to administer the nerve block.
4. Re audit our practice.

Methods

We performed a retrospective audit of all patients presenting with proximal third of femur fracture between October and December 2019 inclusive (following introduction of trauma bypass). We then introduced a designated fascia iliaca nerve block trolley and re audited our practice. The trolley contains a hand-held ultrasound machine and the specific equipment detailed in our fascia iliaca block guideline (attached).

Results

Pre-block trolley results

Nerve block performed in 86% of patients with proximal third of femur fracture.

Time to block was on average 50 minutes.

Concurrent use of opiate analgesia in 60%.

Average pain score at 2 and 4 hours 6/10.

The top two factors identified in causing delay to nerve block delivery were

1. Availability of the ultrasound machine
2. Gathering equipment

Post block trolley results

Nerve block performed in 96% of patients with proximal third of femur fracture.

Time to block was on average 15 minutes.

Concurrent use of opiate analgesia in 5%.

Average pain score at 20 minutes and 4 hours 2/10.

Conclusion

Introduction of a designated fascia iliaca nerve block trolley in our department reduced time to delivery of the block by an average of 35 minutes and a reduction in concurrent opiate use, which causes significant adverse events in this patient population.

Additionally, using the block trolley was associated with a reduction in patient pain scores measured at 20 minutes and 4 hours.

Introducing a designated fascia iliaca block nerve trolley is useful for providing faster better patient care for patients with proximal third of femur fractures. Furthermore, we speculate if we could use our mobile block trolley to effectively deliver the nerve block on ambulance trolleys as the patient arrives to the ED i.e. prior to x-ray in overt cases.

#23676 : OHCA trends in Kaunas, Lithuania

Authors:

Linus Darginavicius (1), Asta Krikscionaitiene (1), Egle Vaitkaitiene (1), Dinas Vaitkaitis (2)

1. Department of Emergency Medicine, LITHUANIAN UNIVERSITY OF HEALTH SCIENCES, Kaunas, Lithuania

2. , LITHUANIAN UNIVERSITY OF HEALTH SCIENCES, 50161, Lithuania

Keywords: OHCA, resuscitation, EMS

Abstract :

Introduction: Out of hospital cardiac arrest (OHCA) is still an important issue for healthcare system because incidence rate is high and survival rates are very variable from 0,6% to 25%. Lithuania did not have any OHCA registry and real incidence rate is not clear. This study reports the trends and survival rates from out-of-hospital cardiac arrest (OHCA) in Kaunas, Lithuania during 2016-2018. Kaunas is second biggest city of Lithuania and has a population of 0,3M. City is served by government funded Kaunas ambulance service (EMS), which has accredited 2 times as excellence centre of „International academies of emergency dispatch“.

Methods: Retrospective analysis of prospectively collected data, which was analyzed according to Utstein template. We included all adult patients who were treated for an OHCA between 1st January 2016 and 31st December 2018 in Kaunas by EMS.

Results: A total of 844 patient cases were analysed. 8 cases were excluded because of lack of data. There is slight increase in event survival rates each year (2016 (24,9%), 2017(28.2%), 2018(31.8%)) which is probably due to increase in shockable bystander witnessed (EMS witnessed excluded) cases (2016(41%), 2017(53.0%), 2018(61.5%)) and accordingly more patients survived to hospital discharge (2016(28.2%), 2017(31.8%), 2018(44.2%)). Results confirm other studies results of poor outcomes of patients who were categorized as „Non-shockable bystander witnessed (EMS witnessed excluded)“ . Results of these patients as follows 2016(3.7%), 2017(3.8%), 2018(0%).

Conclusions: Out of hospital cardiac arrest is an important cause of death in Kaunas, Lithuania. There is lots of room for improvements, as very few patients survive.

1. Perkins GD, Jacobs IG, Nadkarni VM, Berg RA, Bhanji F, Biarent D, et al. Cardiac Arrest and Cardiopulmonary Resuscitation Outcome Reports: Update of the Utstein Resuscitation Registry Templates for Out-of-Hospital Cardiac Arrest: A Statement for Healthcare Professionals From a Task Force of the International Liaison Committee on Resuscitation (American Heart Association, European Resuscitation Council, Australian and New Zealand Council on Resuscitation, Heart and Stroke Foundation of Canada, InterAmerican Heart Foundation, Resuscitation Council of Southern Africa, Resuscitation Council of Asia); and the American Heart Association Emergency Cardiovascular Care Committee and the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation. *Resuscitation*. 2015;96:328-40.

2. Grasner JT, Lefering R, Koster RW, Masterson S, Bottiger BW, Herlitz J, et al. EuReCa ONE-27 Nations, ONE Europe, ONE Registry: A prospective one month analysis of out-of-hospital cardiac arrest outcomes in 27 countries in Europe. *Resuscitation*. 2016;105:188-95.

3. Hawkes C, Booth S, Ji C, Brace-McDonnell SJ, Whittington A, Mapstone J, et al. Epidemiology and outcomes from out-of-hospital cardiac arrests in England. *Resuscitation*. 2017;110:133-40.

#23677 : That's a Pencil Full of Lead

Authors:

Gilmartin Stephen (1), Michael Barrett (2)

1. Specialist Registrar in Emergency Medicine, Galway University Hospital, Galway, Ireland

2. , CHI Crumlin, Dublin, Ireland

Keywords: Ultrasound, POCUS, Trauma, wounds, foreign body

Abstract :

Background: Non-healing wounds are an atypical presentation to paediatric emergency departments. We present a case demonstrating the use of point of care ultrasound for the assessment of a trauma related non-healing wound.

Case Presentation: A 7 year old girl presented to the emergency department with a discharging wound on the posterior aspect of her right thigh. Three weeks earlier the wound was caused by a fall from a height onto her school bag. The patient was systemically well and her mobility was unaffected. She had been treated, in primary care, with two weeks of oral antibiotics for suspected wound infection without effect. Opportunistic point of care ultrasound revealed a linear cylindrical foreign body with a hyperechoic centre [A1] (Fig. 1). A subsequent X-ray showed an 8cm linear radiopaque foreign body with surrounding inflammatory changes.

Outcome: The patient had an 8cm piece of wooden pencil removed in theatre by the orthopaedic team. Following wash out and antibiotic wick insertion the wound healed with no complications to date.

Conclusion: Physicians should have a high index of suspicion for occult foreign bodies in all trauma related non-healing wounds. Vegetative foreign bodies carry a high risk of infection and are regularly not seen on initial x-rays. Point of care ultrasound is a sensitive (90%) and reliable investigation for detection of foreign bodies in soft tissue.

Attachment: Fig. 1.JPG

#23680 : WHEN THE FEVER IS THE CONFUSIONAL FACTOR. How a good management of delirium in the elderly changes the prognosis

Authors:

Güendolina Fernández Fernández (1), Irene Ruiz Miñano (1), Estibaliz Fonseca Castresana (1), Jemima Jolina Tope Love (1), Alba Llario Angel (1), Guillermo Moreno Montes (1), Alexandra Milan Mestre (1), Fernando Lajara Navarro (1)

1. Emergency Room, Hospital Universitario de Torrevieja, Torrevieja, Alicante, Spain

Keywords: Delirium, Acute Confusional Syndrome, fever, subarachnoid haemorrhage

Abstract :**INTRODUCTION**

Acute Confusional Syndrome (ACS) also known as Delirium is one of the most important cognitive disorders in old people. Among 20-40% of admitted old patients suffer from ACS at some point during their hospital stay. Mortality varies from 11-41%, and its mortality per year is around 38%. Its etiology is multifactorial, therefore, good diagnostic management as well as not underestimating its importance, are the key to guarantee the patient's good evolution.

BRIEF CLINICAL HISTORY:

We present an 85-year-old man case. He was brought to the Emergency Room by his son, since he was very concerned, due to the behavior alterations of his dad, that is, the man was suffering an Acute Confusional Syndrome (ACS).

The son said that he was suffering abdominal pain and fever for the last 2 days, together with confusion, disorientation, and aggressiveness that started a few hours ago. The family denied the presence of another medical history, they also denied head trauma or syncope.

His medical history was: Hypertension, Type 2 Diabetes Mellitus, anticoagulated Atrial Fibrillation and Parkinson's evolved into akinetic-rigid syndrome

PHYSICAL EXAMINATION:

- Vital signs: 38°C, BP: 150/80, Glucose: 80, O2 Sat: 98%
- CPA: rhythmic, preserved vesicular murmur
- Abdomen: soft, peristalsis present with acute retention of urine
- Neurological: confused and disoriented, no valuable meningeal signs due to stiffness associated with Parkinson's, non-collaborator

ADDITIONAL TESTS

- Blood test: normal except for INR: 3.5
- Chest X-Ray without edema or condensation, CTR<0.5
- EKG: AF 120 bpm
- Head CT Scan diagnosis of subarachnoid haemorrhage

DIFFERENTIAL DIAGNOSIS

Confusional syndrome of origin:

- Non-organic
- Organic: urinary, respiratory, central nervous system infection or space-occupying lesions (mass, haemorrhages)
- Iatrogenic due to drugs

Clinical judgment: CONFUSIONAL SYNDROME DUE TO SUBARACHNOID HAEMORRHAGE

CONCLUSION

When we received the patient, as he came presenting fever, our first diagnostic orientation was to think about a possible infectious origin (it should be noted that urine infection is the most frequent cause of delirium).

Through additional tests, we were able to rule out a urinary, respiratory, and digestive infectious focus, requesting a head CT scan for possible encephalitis. As a finding, this test informed us of subarachnoid hemorrhage (SAH), to our surprise. This pathology explained all the symptoms, including fever.

SAH presents with a florid clinic, which can cause fever by vasospasm, as reported by GUTH, James C., et al. As emergency physicians, we must always bear in mind against ACS an organic origin, and only when organicity is ruled out, assume that the cause is a previously known neurological disease.

Our patient received rapid assessment, such as, neurosurgery was performed. After 15 days of admission, the patient could be discharged with motor impairment, and rehabilitation.

The aim of this is to not assume that fever is of infectious origin, neither the cause of delirium. Furthermore, recognize when delirium has an organic origin and so, ask for complementary test in order to do a good diagnosis against ACS, can save the life of our patients.

Attachment: Acute Confusional Syndrome.pdf

#23682 : Standardising the approach to acute behavioural disturbance in our Emergency Department**Authors:**

Victoria Claire Meighan (1), art malone (2), susan Ubrihnon (3)

1. Emergency Department, Tallaght University Hospital, belfast, Ireland
2. Psychiatry, Tallaght University Hospital, Dublin, Ireland
3. Emergency Department, Tallaght University Hospital, Dublin, Ireland

Keywords: mental health

Abstract :

Background

Management of acute behavioural disturbance in patients presenting to the Emergency Department (ED) is notoriously challenging, time consuming and risky. When de-escalation and non-pharmacological strategies are ineffective, the next step is to administer medication to calm and protect patient safety. This medication can be administered orally if the patient is compliant or parenterally. There is international guidance on the choice of drug regimen from the National Institute for Health and Care Excellence. There is also a consensus statement from the World Federation of Societies for Biological Psychiatry.

Aims

We aimed to

1. Audit the medication regimen used for management of acute behavioural disturbance in our ED.
2. Perform a literature review of the current international evidence on pharmacological regimens for management of acute behavioural disturbances in the ED.
3. Introduce a policy for the safe and effective pharmacological management of acute behavioural disturbance in our ED.

Methods

We performed a retrospective audit of patients presenting to Tallaght University Hospital Emergency Department with acute behavioural disturbance between January and December 2019 inclusive.

We then performed a literature review of the evidence on the pharmacological approach to management of acute behavioural disturbances.

We cross referenced the evidence and formulated a policy for management of acute behavioural disturbance in our ED.

Results

We noted the difficulty in capturing all patients presenting with acute behavioural disturbance since this may be due to a wide variety of medical, surgical and psychiatric pathologies including but not limited to delirium, dementia, intoxication, injury and psychosis.

We identified 120 patients (n=120) that required pharmacological management of an acute behavioural disturbance.

Documentation of the pharmacological approach was poor with 5% having a clear plan including escalation plan documented in the notes.

The pharmacological approach was varied with the same underlying diagnosis being made but a different pharmacological plan in 50%.

There was adherence to the NICE guidelines in 10% cases.

There was no electrocardiograph performed and olanzapine prescribed in 30%.

Conclusion

Managing a patient with an acute behavioural disturbance in a busy and chaotic ED setting is challenging, time consuming and risky. We sought to determine if, in our institution, we were using the international evidence base to inform our decisions regarding pharmacological management of these patients. Our audit revealed poor documentation, lack of a consensus approach and some unsafe prescribing behaviours. We reviewed the evidence and amalgamated it to create a local policy and proforma for managing these patients safely and effectively in our ED. We are currently re auditing post introduction of a standardised rapid tranquillisation pathway.

#23683 : Methods of Consultations Requests in Emergency Department**Authors:**

Mhd Fateh Khaznawi (1)

1. Emergency Department, Hamad Medical Corporation, Doha, Qatar

Keywords: Methods ,Consultations,Requests , Emergency Department Khaznawi

Abstract :

Methods of Consultations requests in the Emergency Department

A Quality Improvement Project

Introduction:

In emergency department we use two different methods of consultation request , first one is traditional bleep , and the other is mobile phone , here we addressed a questions , What is the best way of consultations request in ED, Traditional Bleep or Mobile phone?

Methods:

We collected data from Emergency Department for 200 cases prospectively in different places and in different shifts time, collecting the time of call or bleep, how many times we bleep or call, and the time of answer and the time. also, we conducted a survey between Emergency Department, Surgery, Internal medicine Physicians, 187 physicians respond to the survey among them 163 physicians completed the survey.

Results:

We found out that the consultations requests by using mobile phone is easier, reachable, faster and better for consultations requests

Conclusion

We recommend to unify the methods of consultations requests with significant difference between Mobile and Bleep, as it is easier, faster, reachable, and better for patients safety and disposition

Trial Registration / Funding Information (only) :

HMC Emergency Department , no funding

#23684 : The impact of Covid-19 on senior Flemish medical students: a survey study.**Authors:**

Luc Mortelmans (1), Leonie Vercauteren (2), Kato Verstrepen (2), Lisanne De Boeck (3), Harald De Cauwer (4), Francis Somville (2)

1. Dept Emergency Medicine, ZNA, Antwerp, Belgium
2. Dept Emergency Medicine, AZ St Dimpna, Geel, Belgium
3. Dept Emergency Medicine, ZNA Camp Stuivenberg, Antwerp, Belgium
4. Dept Neurology, AZ St Dimpna, Geel, Belgium

Keywords: Covid-19, Medical students, Flanders

Abstract :

Background: Throughout history medical students have been mobilized to cope with pandemics as seen in the Spanish Flu outbreak, SARS and H1N1 and H5N1 outbreaks. On the other hand, there is a serious impact of safety and quarantine measures on the education and training of these students. To evaluate the impact of the recent Covid-19 outbreak on senior medical students in Flanders we launched an online survey.

Methods: An online survey looking for demographics, knowledge and impact on their study life was sent through their own mailing lists to students of the 2 latest years of medical study in all universities in Flanders. These years were selected as the students have maximal clinical activity in this phase of their education.

Results: As we're still collecting answers we present preliminary figures on the first available responses. Male / female ratio is 30/70 with the majority of respondents under the age of 25 years. Only 5% plans to specialize in Emergency Medicine; 20% thinks they have/had symptoms of a Covid-19 infection. 54% had a change in tasks during their internship, 14.5% had to change to another service, 12% to another hospital and 29% saw their internship annulated. 8% state that they had to work longer and harder than normal due to the outbreak. 45% stated that they were sufficiently educated to cope with this situation and even 57% felt capable to deal with it. Although, 48% felt ill supported by their universities. 66% was interested to get experience and work on a Covid ward. 82% felt sometimes useless in this situation and 81% feared that they wouldn't learn as much as normal. 49% felt sufficiently protected against Covid during their internship but there was a certain fear in 42%. Concerning contagion 23% feared to get infected themselves and 77% feared transmission to their family members. Although 78% feared for the future of their studies, 72% remained really motivated to continue their internship and studies.

Discussion: As in society, this outbreak has an important impact on these students. The changes in normal planned activities create a fear for the further study progress. Although knowledge and perceived support seem to be weak there is still a high motivation. There is a high fear to infect their family members. Further evaluation on the total population remains necessary.

Trial Registration / Funding Information (only) :

There was no funding for this study

#23685 : Cerebral empyema leading to death in a child with mental development disorders**Authors:**

Ren?te BRANTE (1), Dace Strazdina (2), Zanda Pucuka (2)

1. Emergency Assistance and Observation Department, Childrens clinical university hospital of Rīga, RIGA, Latvia
2. Emergency Assistance and Observation Department, Childrens clinical university hospital of Rīga, Riga, Latvia

Keywords: sepsis, cerebral empyema, meningoenkephalitis.

Abstract :

Background: Sepsis is one of the leading causes of death worldwide. The classic clinical presentation of meningitis is characterized by fever, headache, nuchal rigidity, and altered mental status. The triad of fever, neck stiffness, and a change in mental status is present in less than 50% of paediatric cases. Altered mental status could be missed or misdiagnosed in children with mental retardation and specific developmental disorders.

Case description: This abstract reports a case of a 12-years-old boy with paediatric cerebral palsy (PCP) and specific developmental disorders, who developed purulent meningitis, septic shock, right hemisphere empyema, multiple organ dysfunction syndrome (MODS), extensive right hemisphere and stem herniation and ischemia, brain death, *exitus letalis*.

He presented in the Emergency department with history of vomiting, abdominal pain, fever for two days.

Objective: Vital signs – normal; mental status was difficult to examine – boy had specific developmental disorders due to PCP, and he responded with hypersensitivity to examination. Glasgow coma scale (GCS) 13- 14. Herpetic elements around the mouth and symptoms of moderate dehydration were present. Meningeal signs – negative.

On admission acute abdominal pathology was the most likely diagnosis. Laboratory testing revealed leucocytosis with left shift, and elevated CRP 135mg/l; in US initial appendicitis was suspected; blood culture was obtained. Intravenous rehydration and cefuroxime were started.

Repeated laboratory testing showed increased inflammatory markers, anaemia, hyponatraemia, hypokalaemia. Antibacterial therapy was changed to cefotaxime and metronidazole. After few hours of treatment, the patient's consciousness remained depressed, he was mostly asleep.

Lumbar puncture was not performed because there were negative meningeal symptoms, no headache, and the predominant symptom was abdominal pain. There was no indication for acute abdominal surgery. With diagnosis of bacterial infection of unknown origin, he was admitted to Paediatric ward for further treatment and examination.

Next morning his condition rapidly deteriorated – GCS 3-4, dilated unresponsive pupils, hyperthermia, desaturation, variable heart rate, hypotension. Urgent head MRI was performed – massive subdural empyema, cerebral oedema with compression and incarceration. Urgent evacuation of subdural empyema was performed. Next day the brain death protocol was initiated and completed four days after the patient was admitted to the hospital.

Conclusions: Subdural empyema and bacterial meningoenkephalitis are serious central nervous system infections which can lead to severe neurological impairment and disability or death. It is very challenging for the Emergency doctor to assess the patient's level of consciousness and localization of pain in a child with mental retardation. It is crucial to collect from caregiver's complete information about child's mental state before the disease. Emergency physicians must have higher suspicion of infection of the central nervous system in children with fever and developmental disorders.

#23686 : Special case of ST elevation myocardial infarction: Coronary aneurysm

Authors:

sondos Laajimi (1), Dorra Loghmari (2), sarra sassi (3), khaoula rammeh (4), abir ouederni (4), Chrifa Aouini (1), friji anis (5), Mounir Naija (1), Naoufel Chebili (1)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. , sahloul university hospital,sousse Tunisia, sousse, Tunisia
4. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia
5. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia

Keywords: coronary aneurysm,STEMI,cardiovascular

Abstract :**Introduction:**

The electrical aspect on the electrocardiogram of a patient with an ST elevation myocardial infarction STEMI is a key element not only for the positive diagnosis but also for the etiological diagnosis .However, for an acute coronary syndrome with an extended ST Elevation or circumferential , determining the culprit artery before coronary angiography remains difficult and poses a differential diagnosis with peri myocarditis. Thrombosis on a coronary artery aneurysm is one of the rarest etiologies of a STEMI.

We report the case of a patient in whom a coronary aneurysm was found during a coronary angiography

Observation

Mr. H .A, 47 years old, smoker 25 pack-years , with past history of myocardial infarction , presents chest pain. He consults at H1 in the emergency room, the clinical examination shows a very painful patient with Visual Analogue Scale (VAS) = 8/10, eupneic, cardiopulmonary auscultation without anomalies Satpo2 at 98%AA, blood pressure at 12/08 mmHg, heart rate at 85 cycles / min, present and symmetrical pulse, no peripheral signs of shock, with Glasgow Coma Scale at 15/15. The ECG shows an extended ST Elevation with mirror image in aVR. primary angioplasty was not available, thrombolysis was performed by tenecteplase at H1 with failure of thrombolysis: persistence of pain as well as ST elevation . The patient was treated after that in a private clinic where they performed a rescue angioplasty. A coronary angiography was made and showed a true sacciform aneurysm of the anterior ventricular segment 1 with post aneurysmal stenosis. By default of stent, it was proposed for surgical treatment

Discussion

The coronary artery aneurysm is rare, its incidence in the general population varies from 0.02% to 0.04%.

Atherosclerosis is the most common cause .

A distinction is made between sacciform aneurysms, at increased risk of thrombosis and rupture,

spindle-shaped aneurysms and real aneurysms. Coronary angiography is the "gold standard" in the diagnosis of aneurysms. The coroscanner which is also reliable in the detection of aneurysms, strictures and occlusions. The rupture of a coronary artery aneurysm as a complication remains rare, giving an arteriovenous fistula with a right left shunt, a hematoma or an intra myocardial mass, if the rupture occurs in the pulmonary artery, the right ventricle and the coronary sinus but also a pericardial tamponade. Surgical intervention is recommended for patients suffering from coronary aneurysms larger than 30 mm in diameter. For the prognosis, and by matching patients with coronary aneurysms with other coronaries

according to the coronarographic we don't found a difference in survival at five years, but a significantly higher rate of myocardial infarction. myocardium in patients with aneurysms

Conclusion

The coronary aneurysm is a particular and rare entity for coronary disease which can give a diffuse ST elevation whose efficacy of thrombolysis remains debatable. Its knowledge is necessary to optimize therapeutic management.

#23687 : Pulmonary micronodular pattern

Authors:

Ana Ramos Rodríguez (1), Beatriz Martín Pérez (1), Rubén Pérez García (1), Graciela López Muñiz (2), Nieves Sobradillo Castrodeza (1)

1. Emergencias, Hospital Universitario Río Hortega, Valladolid, Spain

2. Neumology, Hospital Universitario Río Hortega, Valladolid, Spain

Keywords: Miliary tuberculosis, liver granuloma, chest radiography

Other imaging source

Patient images are involved and I have adequate permission to use them

Abstract :**Brief clinical details**

Male, 45 years old, from Morocco, resident in Spain for 1 year. No drug allergies, smoker of more than 20 cigarettes/day for 30 years, no other personal history of interest or toxic habits; He attends the Hospital Emergency Department for pleuritic chest pain of two months' evolution associated with non-productive cough and night sweats. Weight loss of 13 kg and non-specific epigastralgia since then. Denies fever and any other associated symptoms. Lives with 2 other people with similar symptoms who have not consulted.

Description of the relevant abnormalities

Vital signs within normal range. Physical examination: Cachexia, eupnea and good general condition. Cardiopulmonary auscultation: rhythmic without murmurs or extratones. Decrease in vesicular murmur in right hemithorax. Abdominal exploration: hepatomegaly in abdominal palpation without pain or signs of peritoneal irritation. No other masses or megalia are palpated.

Blood analysis: blood count, coagulation and blood biochemistry including hepatic parameters within normal range. Electrocardiogram: rhythmic at 74 beats per minute. Chest X-ray: cardiothoracic index within normal and multiple non calcified hyperdense micronodular images with diffuse distribution in all fields of both lungs.

Abdominal ultrasound: Hepatosplenomegaly with 3 hypoeogenic liver images.

The final diagnosis is: miliary tuberculosis with hepatic granuloma of probable tuberculous origin.

Why this image is clinically or educationally relevant?

Tuberculosis is a prevalent entity in our environment due to the changes and demographic characteristics of recent times, with the Emergency Department being the first point of contact with health care. The pulmonary micronodular pattern is associated with processes with interstitial involvement, including pulmonary metastases, miliary tuberculosis, silicosis, asbestosis, sarcoidosis and other autoimmune diseases. Miliary tuberculosis is produced by hematogenous dissemination and is a severe and advanced form of presentation with extrapulmonary involvement mainly in the liver, spleen and central nervous system (tuberculous meningitis). The magnitude of the clinical picture is not related to the extent, with cough and chest pain being the

most prevalent symptoms along with weight loss. Given the severity of some entities and their impact on the community, it was decided to admit the patient to respiratory isolation in order to complete the study, initiate treatment and study risk contacts. Clinical suspicion is important for diagnostic confirmation and early initiation of treatment.



#23688 : THE PREHOSPITAL MANAGEMENT OF ACUTE CORONARY SYNDROME WITH ST ELEVATION : TWENTY YEARS EXPERIENCE**Authors:**

Chrifa Aouini (1), Dorra Loghmari (2), Rabeb Mbarek (3), Chrifa Benchikh (4), lahouimel mariem (5), ghada shili (5), MAROUA TALBI (5), Mounir Naija (1), Naoufel Chebili (1)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, SOUSSE, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia
5. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia

Keywords: prehospital,STEMI

Abstract :**Introduction :**

The pre-hospital care of the ACS with ST elevation involves several links from the reception of the call to the patient's orientation. The optimization of this sector is essentially based on the evaluation of our practices. The aim of our study is to evaluate the progress after 20 years of the acute coronary syndrome with ST elevation supported by prehospital medical teams.

Materials and methods :

It is a comparison of two retrospective studies ; the first carried out between 1994 and 2002, and the second in 2018 included all patients with acute coronary syndrome with ST elevation supported by SAMU03 teams. We analyzed the epidemiological and clinical characteristics of the patients, the delay of management, the reperfusion strategy adopted in pre-hospital and the outcome of the patients.

Results :

There was a significant increase in incidence between the two study periods. The average age was similar between the two groups ($p = 0.4$). However, there has been an increase in the frequency of ACS in women (SR 7 to 3). Hypertension and diabetes were the most important risk factors. The calls came from peripheral public structures in more than 70% of the cases. Electrical abnormalities are the most frequent reason for call. The anterior territory was the most affected in the two studies. However, in 2018 there was an increase in the frequency of inferior ACS (45 % in 2018 compared to 18% between 1994 and 2002). Complications of ACS with ST elevation at the time of diagnosis became less frequent in 2018 compared to the first period with 33.3% and 75% respectively. In both cases, arrhythmias and arterioventricular blocks are the most common complications. The median pain-to- medical contact delay was 141 min ; it is <4 h in half of the cases in 2018. The median pain-fibrinolytic therapy delay was 168 min. No primary percutaneous coronary intervention (PCI) was performed between 1994 and 2002. Only 5.7% of patients received fibrinolytic therapy. The number of not re-infused patients decreased from 72.3% to 38% in twenty years. In 2018, 48 patients (30.18%) received fibrinolytic therapy, including 3 patients who required rescue percutaneous coronary intervention (PCI). Primary percutaneous coronary intervention (PCI) was undergone in 46 patients (28.9 %). Percutaneous coronary intervention (PCI) was realised in private sector in 63% of cases. The percentage of patients admitted to the SAUV was multiplied by 10 between the two study periods (4% vs 40%) against a drop in the number of patients admitted directly to the ICU (22% vs 51.4%).

Conclusion :

The prehospital management of ACS with ST elevation has progressed in recent years. Improving care involves controlling risk factors, educating at-risk patients on the importance of symptoms and the time factor, and providing catheterization centers in public deprived governorates. The creation of a coronary care network with a partnership between the public and private sector is necessary.

#23689 : Skull and neck fractures during amateur sports activity**Authors:**

Nikolaos Syrmos (1), Georgios Gavridakis (2)

1. , Aristotle University of Thessaloniki, Thessaloniki, Greece

2. , Venizeleio General Hospital, Heraklion, Greece

Keywords: sports-trauma-skull-neck

Abstract :

Aim of this study is to present cases with skull and neck fractures during amateur sports activity

10 cases are presented in a 4 year period. 9 males and 1 female. Range of age 21-41 years. Mean age 29.

All of them had skull and neck fractures during amateur sports activity (4 amateur sea sports related activity, 3 in motor sports, 1 in soccer, 1 in basketball, 1 in bicycle activity)

We performed in all of them x ray, ct and mri scan. 9 of them they need conservative treatment and 1 of them surgery .

Accurate measures in order to prevent these kind of traumas are a necessity for the sports society and for the population

Trial Registration / Funding Information (only) :

ok

#23691 : Epidemiological and evolutionary profile of patients admitted to the intensive care unit of an emergency service: prospective study about 500 cases**Authors:**

rym Hammami (1), Mehdi Ben lassoued (2), Manel Kallel (2), Mounir Hagui (2), Olfa Djebbi (1), Khaled Lamine (2)

1. Emergency room, military hospital, TUNIS, Tunisia
2. Emergency departement, Hopital militaire, Tunis, Tunisia

Keywords: Survey, Emergency, Epidemiology, Development

Abstract :

Background: Emergency departments are experiencing a steady increase in attendance.

This is why the intensive care unit (ICU) has been created.

Objective: The objective of this study was to evaluate the activity of ICU by studying epidemiological, clinical and evolutionary characteristics of patients admitted to ICU.

Methods: Mono-centric prospective study over three months including all patients admitted to ICU. The epidemiological, clinical and evolutionary characteristics were analyzed. A multivariate analysis was performed to identify predictive factors for mortality in ICU.

Results: Patients admitted to ICU accounted for 4.6% of all consultants. The average age was 58.5 ± 18 years with male predominance. Diabetes and high blood pressure were noted in 26% of patients. Patients arrived at the emergency department directly from their homes in 76% of cases. The reasons for consultation were related to a medical pathology in 76.6% of cases and with traumatic or surgical pathology in 23.4% of cases. Cardiac emergencies were in the foreground with 166 patients (37.6%). The mortality rate in ICU was 2.4%. The comparison of the two groups: medical and traumatic or surgical pathologies showed a higher average age and a longer stay in ICU for patients admitted for medical pathology. The multivariate analysis identified two predictor factors of mortality in ICU:

-Glasgow Coma Scale ≤ 13 (OR 2.13, 95% CI [1.1-4.6], $p = 0.01$)

-Lactate $\geq 2, 2$ (mmol / l) (OR 2.8, 95% CI [1.32-5.95], $p < 0.001$).

Conclusion: ICU are a hospitalization units with increasing admission rates. The creation of these units improves the quality of care in emergencies

Trial Registration / Funding Information (only) :

nous n'avons aucun conflit d'intérêt à déclarer

#23692 : The seasonal incidence of myocardial infarction

Authors:

hicheri yassine (1), Dorra Loghmari (2), Chrifa Benchikh (3), sourour briki (1), khaoula rammech (1), Farrouk Douma (4), Saoussen Bargui (3), Mounir Najja (4), Naoufel Chebili (4)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia
4. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: prehospital,STEMI,season

Abstract :**Introduction :**

In the literature there is more and more evidence on the relationship between environmental triggers (temperature, altitude, atmospheric pressure ...) and the incidence of acute myocardial infarction (MI). However, due to variations in seasonal temperature and other meteorological parameters, it is difficult to generalize the results from one population to another under different climatic conditions.

The aim of this study is to assess the existence of a relationship between meteorological parameters and the incidence of MI in central and eastern Tunisia. .

Methods :

It is a transversal study carried out from the register of myocardial infarction (MI+) of EMS during the year 2018. In parallel with the collection of demographic and clinical data, we asked the Sousse meteorological center to give us the monthly average of the following parameters: Temperature , humidity, and atmospheric pressure.

Results :

In 2018, the EMS call and regulation center collected 10,400 calls. 306 cases for MI + were processed. Among them, 159 patients were treated by our EMS in primary (N = 94) or in primary-secondary (N'65).

Our population is predominantly male with a sex ratio of 0.27, with an average age of 60.75 years + - 12.82 [25-90]. The frequency of MI is significantly higher in winter with an average T ° of 16 ° C, the average humidity index is 71.75 with an average atmospheric pressure at 13.5Kpas. Note that the maximum of MI (17%) have was observed in February with a T ° 13 ° C; humidity at 77 and PAat 13.

The calculation of the linear correlation coefficients finds $r = -0.5$ for temperature, -0.1 for atmospheric pressure and finally 0.3 for humidity.

Conclusion:

Our study shows that there is a negative linear relationship between the change in temperature and the incidence of MI.

Trial Registration / Funding Information (only) :

no

Authors:

sondos Laajimi (1), Dorra Loghmari (2), hicheri yassine (3), Chrifa Benchikh (4), bouhoula asma (3), yassine jeridi (1), ayachi llahi (4), khaoula rammeh (3), Naoufel Chebili (1)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia

Keywords: ECG,wellen's syndrome

Abstract :**INTRODUCTION :**

Wellens' syndrome is a phenomenon of T-wave inversions seen in the precordial leads of the electrocardiogram in the patients with unstable angina.

This finding is seen in the pain-free state. Two different patterns have been described. Type A presents with biphasic T waves in V2-V3 and type B presents with symmetrical deep T-wave inversions in V2-V3.

This etiology signifies critical stenosis in proximal left anterior descending artery (LAD).

CASE REPORT :

We report the case of a 45-year-old patient admitted to an emergency department, because of a thoracic pain suspicious for angina pectoris.

Although the patient had become asymptomatic on admission, his first electrocardiogram was normal but the second electrocardiogram presented abnormalities (biphasic T waves in V1 to V4) which prompted a diagnosis of unstable angina.

This electrocardiographic pattern is known as Wellens' syndrome.

His admission blood pressure was 192/110 mm Hg.

Examination on admission revealed normal heart sound without any murmurs.

Troponins drawn before catheterization were normal twice.

Due to his risk factors and recent dynamic changes, it was decided that cardiac catheterization should be offered.

The patient consented to the procedure, and catheterization revealed that he had 60-70% stenosis in proximal LAD.

The circumflex and right coronary arteries were normal.

A stent was successfully inserted at the site of the stenosis. The patient recovered without

complication and was discharged.

He was given an outpatient follow-up with a cardiologist.

CONCLUSION:

Wellens' syndrome is a pattern of T-wave changes in the precordial leads that occurs in a subset of patients with unstable angina signifying stenosis of proximal LAD. It can have an atypical presentation.

More studies need to be done to fully understand the different locations of lesions and their associated EKG findings. Early treatment of Wellens' syndrome prevents the patient from developing myocardial infarction.

#23694 : C-reactive protein and peripheral partial oxygen pressure can predict the need for hospitalization in COVID-19 patients admitted in Emergency Department**Authors:**

Irena Kostic (1), Antonio Bonora (2), Alessia Olivato (3), Barbara Melchiorretto (3), Eleonora Zaccaria (1), Antonio Maccagnani (1)

1. Emergency and Intensive Care Department, University of Verona, Verona, Italy

2. Emergency and Intensive Care Department, University of Verona, VERONA, Italy

3. Postgraduate School of Emergency Medicine, University of Verona, Verona, Italy

Keywords: COVID-19, Laboratory assessment, Admission rate

Abstract :

Background: Coronavirus disease (COVID-19) has been spreading around the world like a dramatic pandemic, the wide spectrum of clinical variability ranging from asymptomatic patients to critical ones. Since the frequent respiratory involvement could develop into a rapid and often unexpected manner into acute respiratory distress syndrome (ARDS), to promptly identify which patients need for timely hospitalization and intensive care is a crucial issue. Several studies have already assess the relationship between laboratory abnormalities and outcome in COVID hospitalized patients, but none of these has been carried out in acute setting.

Aim: The aim of this prospective observational study was to investigate whether simple and easy to collect clinical and laboratory findings could affect the choice between admission and discharge in COVID patients.

Patients and methods: We carried our study in the Emergency Department (ED) of the University Hospital of Verona (Italy) between 16th and 31th March 2020, considering all consecutive patients with SARS-CoV-2 detection by polymerase chain reaction in nasopharyngeal swab. Patients were then enrolled if fullfill one or more of these symptoms: fever equal or more than 38° , cough, shortness of breath, tachypnoea. In all patients medical history and risk factors and underlying conditions likely affecting the course of disease were reported and blood gas analysis, laboratory examinations and chest x-rays were performed. At the end of ED evaluation physician decided for patient discharge or admission. All discharge patients were followed until disease resolved without sequel.

Statistical analysis: Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were derived from the receiver operating characteristic (ROC) curves and analysed. The optimal cut-off values of biomarkers were established by ROC curves and cut-off values for each parameter affecting hospitalization were calculated from the areas under ROC curves (AUC). The groups were compared with Mann-Whitney test and proportion of patients with Chi-square test. Difference set at $p < 0.05$ was considered significant.

Results: Out of 190 positive for SARS-CoV-2, 109 symptomatic patients (69 males, 40 females; mean age 67 years, range 27-93) formed the study population. After ED evaluation, 86 patients (78.9%) were admitted, while 23 (21.1%) were discharged and then healed without sequel. The variables more significantly related with hospitalization were: age, partial oxygen pressure (pO₂), percutaneous oxygen saturation (SO₂), C-reactive protein (CRP), white blood cells count (WBC) and imaging positive for pulmonary infiltrates ($p < 0.001$). The rispective cut-off values were: age over 60 years (95% CI 0.78-0.95,

PPV 95.9%), pO₂ less than 72 mmHg (95% CI 0.90-0.99, PPV 98.7%), SO₂ less than 97% (95% CI 0.83-0.95, PPV 96%), CRP superior to 19 mg/l (95% CI 0.89-0.99, PPV 96.4%), WBC superior to 5.8 x 10⁹/l (95% CI 0.65-0.88, PPV 92.4%) and positive chest x-rays (95% CI 0.60-0.90, PPV 91.9%). We reported the higher hospitalization rate for pO₂ (167 times) and CRP (108 times) respectively.

Conclusion: The values of pO₂ and CRP appeared to be a simple a reliable prognostic factors and could support ED physicians in the short-time decision to admit the COVID patients.

#23695 : The interest of transthoracic Doppler echocardiography done by the emergency physician in emergencies.

Authors:

Mehdi Ben lassoued (1), Maher Arafa (1), Manel Kallel (1), Khaoula Hamzaoui (2), Manel Khaskhoussi (1), Yosra Gtari (3), Bassem chatbri (4), Khaled Lamine (1)

1. Emergency departement, Hopital militaire, Tunis, Tunisia
2. Emergency departement Hmpit, Hopital militaire, Tunis, Tunisia
3. emergency departement, military hospital, TUNIS, Tunisia
4. emergency departement, military hospital, TUNIS, Sudan

Keywords: Chest pain, Circulatory failure, Emergency, Dyspnea, Echocardiography, Emergency.

Abstract :

Introduction: Emergency clinical ultrasound refers to the use of the ultrasound tool by emergency physicians at the bedside of critical patients, for whom a rapid decision is necessary.

Objective: To evaluate the contribution of transthoracic echocardiography (TTE) performed by the emergency physician at the bedside of a patient in an emergency department.

Methods: It was a prospective, three-month observational study involving patients admitted for acute dyspnea, chest pain or circulatory failure. A visual ultrasound evaluation was performed based on measurements of the left ventricular ejection fraction, right cavities dimensions, diameter and respiratory compliance of the inferior vena cava and on assessment of the pericardium.

Results: Eighty-six patients were included. Fifty-two percent of patients were admitted for acute dyspnea, 27% for chest pain, and 9% for hemodynamic instability. Intricate clinical pictures were also reported. Twenty-two percent of the ultrasound examinations were performed within the first 6 hours after admission. Echocardiography corrected the initial diagnosis and / or directed to more specific investigations in 42% of patients. It adjusted the therapeutic management and monitoring of the effectiveness of initiated treatment in 81% of patients.

Conclusion: Clinical echocardiography is an extension of clinical examination. To supply emergency departments with the necessary ultrasound equipment in addition to specific training provided for emergency physicians remains absolutely essential.

Trial Registration / Funding Information (only) :

nous n'avons aucun conflit d'intérêt à déclarer

#23697 : Development and evaluation of a situation awareness model targeting clinical deterioration in the emergency departments – a quasi experimental study**Authors:**

Gitte Boier Tygesen (1), Marianne Lisby (2), Nikolaj Raaber (3), Mette Trøllund Rask (4), Hans Kirkegaard (5)

1. Dept of Emergency Medicine and Research Center for Emergency Medicine, Aarhus University Hospital and Aarhus University, Horsens, Denmark
2. Dept of Emergency Medicine and Research Center for Emergency Medicine, Aarhus University Hospital and Aarhus University, Aarhus, Denmark
3. Dept of Emergency Medicine, Aarhus University Hospital, Aarhus, Denmark
4. The Research Clinic for Functional Disorders and Psychosomatics, Aarhus University Hospital, Aarhus, Denmark
5. Research Center for Emergency Medicine and Department of Emergency Medicine, Aarhus University and Aarhus University Hospital, Aarhus, Denmark

Keywords: Early warning score systems, clinical deterioration, emergency medicine, situation awareness

Abstract :

Background: Early warning score (EWS) systems predicts adverse outcomes; however, the effect on clinical outcomes in emergency departments is ambiguous. Studies have suggested that adding subjective parameters to early warning score systems might prompt more proactive treatment and positively affect clinical outcomes. The objective of the present study was to investigate the effect of a situation awareness model consisting of clinical huddles, a modified early warning score system based on vital parameters, objective and subjective clinical parameters in adult emergency department patients.

Methods: This is a controlled before and after study introduced in four Danish emergency departments. In adult patients (surgical and medical) we examined if a conventional early warning score system supplemented with objective and subjective clinical parameters and huddles of at-risk patients forming a situation awareness model could decrease the proportion of patients with clinical deterioration (primary outcome, defined as increase in the early warning score from either 0 or 1 to score ≥ 2 , or increase from score ≥ 2 and above). Supplemental parameters were: skin observation, clinical intuition, patients' and relatives' concerns, pain and dyspnea reported by the patient. Effect on mortality, intensive care unit admissions and readmissions was additionally compared to the effect of the conventional early warning score system alone (secondary outcomes).

Results: We included 34,556 patients. Using difference-in-difference regression, we found a reduction in odds of clinical deterioration by 21% (OR 0.79 95%CI [0.69; 0.90]) in the intervention groups compared with the controls groups. However, we found no impact on mortality, intensive care unit admissions, or readmissions.

Conclusion: The situation awareness model consisting of a modified early warning score system comprising vital signs, objective and subjective parameters and clinical huddles seems to reduce the odds of clinical deterioration among adult patients in the emergency departments.

Trial Registration / Funding Information (only) :

Trial registration: The study was approved by the Danish Data Protection Agency (1-16-02-34-16) and the Danish Patient Safety Authority (3-3013-1539). According to Danish law, the study did not require approval from the National Committee on Health Research Ethics. ClinicalTrials.gov (NCT03457272). Funding: This work was supported by Familien Hede Nielsens Fond, Denmark (11.01.18) (11.02.16), the Graduate School of Health, Aarhus University, Denmark (18296453) and the Health Research Fund of Central Denmark Region, Denmark (R30-A935-B771)

#23698 : Epidemio-clinical study of patients treated for pre-hospital stroke

Authors:

khaoula rammeh (1), Dorra Loghmari (2), MAROUA TALBI (1), nouhel mzid (1), abir ouederni (1), mrabet ahmed (1), Mounir Naija (3), Naoufel Chebili (3)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: stroke,epidemiology,prehospital

Abstract :

Introduction: Stroke is a medical emergency requiring early and specialized care. In the pre-hospital phase, the race against the clock begins to avoid any loss of time detrimental to patients. In fact, the general public must be made aware of the early symptoms of stroke and educated so that they can raise the alarm as early as possible. The role of the emergency medical service is to save time for obtaining imaging to confirm the diagnosis and the mechanism of the stroke. The aim of our study is to identify the epidemiological and clinical characteristics of patients with stroke supported by the SAMU 03 team.

Materials and methods : Descriptive retrospective study in the SAMU service for a period of 10 months (2018) including 134 stroke patients.

Results: 71.6% of calls for suspected stroke are made in the morning with 61.2% at home. More than half (54%) of the callers are not healthcare professionals and the average duration of symptoms is 3 hours and 20 minutes. As for management, only 3.7% of cases require respiratory assistance, 11.9% oxygen therapy. In 10.4% of patients, a thrombolysis alert was started by the SAMU team.

Conclusion: It is important to identify strokes, follow the evolution and make a continuous evaluation of our practices to consider improvement strategies.

#23699 : Management of acute myocardial infarction in patients presenting with ST-segment elevation in a pre-hospital setting: Epidemio-clinical and evolutionary profile

Authors:

sarra sassi (1), Dorra Loghmari (2), Chrifa Benchikh (3), ghada shili (4), yassine jeridi (5), faten bennahia (4), Mounir Naija (5), Naoufel Chebili (5)

1. , sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, soussse, Tunisia
4. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: prehospital,STEMI,epidemiology

Abstract :**Introduction**

Chest pain of cardiovascular origin is a frequent reason for alerting the EMS (Emergency Medical System). It is clearly demonstrated that the mortality from myocardial infarction in the acute phase is directly proportional to treatment delays. Faced with any call for chest pain, suspicious or suggestive of STEMI, the medical regulation engages an emergency team, depending on our availability. Our role is therefore essential in the early initial diagnosis and treatment, but also in identifying the patient's potential severity to orient them towards the most appropriate technical platform. The reperfusion strategy is chosen based on the pain delay and the availability of a catheterization laboratory. Reperfusion strategies must take in consideration drug contraindications and local geographic constraints.

Objective

The objective was to study the epidemio-clinical and evolutionary profile of STEMI patients transferred by our emergency teams , in Tunisian center.

Patients and methods

This retrospective descriptive study of patients with acute myocardial infarction, managed by the EMS teams over a period of one year (2018).

Results

In 2018, there were 10,400 calls recorded, of which 306 were STEMI. 159 cases (51.9%) are treated in primary or primary–secondary. The average age of our patients was 60.75 ± 12.82 years; with a male predominance (sex ratio was 3.67). The place of intervention was a regional or district hospital in 76% of the cases, a medical office (9.3%), at the patient's home (3.7%), and a public place (3.7%). The reasons for the appeal were dominated by an already diagnosed STEMI (72.3%), followed by chest pain without obvious diagnosis (23.8%), then a NSTEMI (1.2%) and dyspnea (1, 2%). The STEMI affected the anterior territory in 47.1%, lower in 45.2%, and isolated lateral in 4.4%. 62% of our patients have had myocardial reperfusion. Prehospital thrombolysis

was performed in 30.1% of our patients; primary angioplasty could only be performed in 28.9%. Most of the PCI was performed in a private structure (63.2%) and only in third of the cases in a public hospital.

Conclusion

Our study shows that 32% of patients with STEMI managed by Prehospital teams have no myocardial reperfusion. When a reperfusion strategy is done, the majority of patients benefit from thrombolysis.

#23700 : Characteristics of the patients assessed in an Emergency department (ED) with minor head injury diagnosis following the implementation of a new protocol.**Authors:**

CARBAJO AZABAL SILVIA (1), BARRENECHEA BARRUETABEÑA IKER (1), GARAIZAR BILBAO IRATI (1), LUCO GONZALEZ GUILLERMO (1), IBARLUCEA GOROSPE GARAZI (1)

1. EMERGENCY DEPARTMENT, HOSPITAL URDULIZ, URDULIZ, Spain

Keywords: MINOR BRAIN INJURY, CT SCAN, EMERGENCY DEPARTMENT

Abstract :

BACKGROUND:

Head traumas are a frequent reason for attendance at an ED, Up to 75 % of traumas are classified as minor, more likely associated with elderly people. Between 1 and 4 % of patients, presenting minor head trauma will develop life threatening brain injury. The biggest challenge is to ensure correct management and diagnosis. Head CT scan is the first line diagnosis tool. The purpose of the study is to analyse head trauma patients characteristics in a first level Hospital following the implementation of a new protocol.

METHODS:

A Descriptive observational study was performed including patients assessed in Urduliz Hospital ED after setting up a head trauma protocol during the period of 2 months, between the 25th of January and 15th of March. To adequate the CT performing criteria, a Head injury form was used. All patients included had a final discharge diagnosis of head injury. The epidemiological variability, the number of head CT scans, radiological findings, second CT scan performance and the final discharge destiny were studied. Statistical data analysis was made with SPSS Statistics Version 22.0.

RESULTS:

The sample included 147 subjects examined and diagnosed with head Injury. 51.7 % were women and 48.3 % men. The average age was 67 with a range between 14 to 98 years. 50% of the patients were older 75 years, 14.3 % had dementia history, associated with an increased risk of falling. Drug and alcohol abuse was present in 7.5 % of the cases. Regarding the use of bleeding risk drugs 24.5 % of the patients were on antiplatelet, 11.6 % were on anticoagulants and only 8.2 % were taking direct acting anticoagulants. 96.6 % of patients on bleeding risk drugs were older than 65 years.

The new protocol was followed in 98.6 % of the cases, but the form to adequate indication to undergo a CT scan was not fulfilled in 95.2 % of the cases.

123 patients underwent a head CT scan, 83.7 % (103) were reported with no abnormal findings, nine with intracranial haematoma and one was reported as subarachnoid haematoma.

Following the new protocol 25 patients with normal first CT underwent a second CT scan, in 80 %, the second examination was normal, 4 cases were reported with intracranial haematoma and one case as subarachnoid haematoma.

The average hospital admission was of 25 hours. 90.5 % of the patients were discharged home with a written discharge advice; only six patients were referred to a neurosurgical department.

DISCUSSION AND CONSLUSIONES:

The implementation of a new protocol has shown a decrease in the risk of discharging patients with potentially serious brain injuries.

In addition in patients on anticoagulant drugs, the second head CT scan has been reported with abnormal findings in up to 20 % of cases.

On the other hand, the protocol has increase the hospital admission time and the number of CT scan performed.

#23701 : 'Sim'plifying Sepsis**Authors:**

Victoria Claire Meighan (1), april walsh (2), sandra hartigan (2)

1. Emergency Department, Tallaght University Hospital, belfast, Ireland
2. Emergency Department, Tallaght University Hospital, Dublin, Ireland

Keywords: sepsis simulation training

Abstract :

Background

High fidelity simulation based medical education is effective for training technical and non-technical skills. Sepsis is recognised as a life threatening condition that if recognised and treated early is potentially treatable. Missed sepsis is a significant cause of mortality worldwide with several high profile cases.

Compliance with the sepsis pathway in our urban Emergency Department was less than 30% in January 2019. We hypothesized that introducing a mandatory sepsis training programme including e learning and a simulation based training programme for all doctors in our Department would improve compliance with the sepsis pathway.

Aims

We introduced a standardised sepsis simulation training programme for all junior doctors in our ED (18). The programme included an online elearning module and a one hour simulation session.

The elearning module included a short test component that had to be passed.

The sepsis simulation was a standardised one hour in situ session that had learning outcomes including the recognition and declaration of a suspected sepsis diagnosis, institution of the sepsis six and adherence to the sepsis pathway. The participants actions and responses were monitored by an independent observer.

There was a short test component where doctors had to perform the sepsis six within 20 minutes in order to receive a certificate of completion of training. For consistency, the training was conducted by an Emergency Medicine Physician and a nurse clinical facilitator from the Emergency Department.

Methods

A retrospective audit of compliance with our sepsis pathway before and after introduction of the training programme was performed.

The audit was conducted between June and August 2019 inclusive and June and August 2020 inclusive.

The electronic care record/symphony database was searched using sepsis as a key word.

Results

June- August 2019

Total number of presentations to triage with sirs criteria n=98

Suspected source of infection chest 60% urine 30% other 10%

Average time to first dose antibiotics > 1 hour 80% < 1 hour 20%

500 ml fluid bolus given in < 25%

Intravenous (IV)access in 100%

IV lactate taken within 1 hour 65%

IV blood cultures taken within 1 hour 30%

Urinary catheter inserted in 10%

Urinary output monitored in 10%

June-August 2020

Pending

Discussion

Sepsis is a potentially life threatening condition that if recognised and treated promptly can be successfully treated. We hypothesized that introducing a mandatory training programme (an elearning module plus a practical simulation based session) for recognition and management of sepsis would improve adherence with our sepsis pathway. Results pending.

#23702 : Patterns of Pain Presentations during the Covid 19 Pandemic: An audit on ureteric colic presentations to an urban Irish Emergency Department

Authors:

Aisling Mairead Betts (1), Victoria Meighan (2)

1. Emergency Department, Tallaght Universty Hospital, Waterford, Ireland
2. Emergency Department, Tallaght Universty Hospital, Dublin, Ireland

Keywords: renal stones, CT KUB, COVID, late presentation

Abstract :**Introduction**

Pain from ureteric colic is a common presenting complaint to the Emergency Department (ED). Our urban Emergency Department in Dublin, Ireland, routinely sees between 45 and 50 cases of suspected ureteric colic per month. The Covid 19 pandemic has resulted in less patients presenting to the ED with complaints that are not respiratory, perhaps because of fear of contracting the disease. The aim of this audit was to assess the impact of the COVID19 pandemic on patient's presenting with ureteric colic. We hypothesised that we were seeing less patients presenting with ureteric colic and those that did present had larger calculi (impassable) confirmed on imaging.

Method

We carried out a retrospective audit on all non-enhanced Computed Tomography of Kidney, Ureter and Bladder (CT KUB's) scans ordered in our ED during March 1st- 31st inclusive in 2019 and 2020 respectively.

We collected demographic data on age, gender, the size and site of the stones on CT, the treatment plan post CT, and serum urea and creatinine levels. We included data on the number of CT KUBs ordered that were negative for calculi. We collected this data via review of our electronic patient record, Symphony. There were no exclusion criteria.

ResultsMarch 2019

44 CT KUBs were ordered in the department (n=44)

20 (45.5%) were reported as having a calculus.

18 male, 2 female.

The mean size of calculus was 4.6mm, with the largest being 9mm and the smallest 2mm.

14 (70%) of the calculi were reported in the kidney pole/ PUJ/ proximal ureter, with 6 (30%) of the stones reported in the distal ureter/ VUJ.

15 were admitted under Urology for further treatment and 5 discharged to Urology outpatients.

March 2020

31 CT KUBS were ordered in the department (n=31)

21 (67.7%) were reported as having a calculus.

14 male, 7 female.

The mean size of calculi was 4.8mm, the largest being 20mm and the smallest being 2mm.

9 (43%) of the calculi were reported in the kidney pole/ proximal ureter/ PUJ, with 12 (57%) of the stones reported in the distal ureter/ VUJ.

15 were admitted under Urology for further treatment and 3 discharged to Urology outpatients.

Discussion & Conclusions

Our original hypothesis that less patients were presenting to our Emergency Department with ureteric colic in March 2020 (31) in comparison to March 2019 (44) was correct.

The actual number of confirmed ureteric calculi was higher in March 2020.

We had a lower percentage of negative CT KUBS in 2020 (68% positive in 2020 versus 45% in 2019). The mean size of stone also increased in 2020 in comparison to 2019 with the average stone measuring 4.8mm in comparison to 4.6mm. Size and location are important since it predicts likelihood of spontaneous passage with spontaneous passage rate being reported as 81% in 4 mm, 65% in 5 mm, 33% in 6 mm and 9% in ≥ 6.5 mm wide stones. We suspect that patients with smaller stones may not have presented to the hospital during the pandemic period.

#23703 : Healthcare Workers Emotions, Perceived Stressors and Coping Strategies during SARS-Cov-2 pandemic

Authors:

MAROUA TALBI (1), Dorra Loghmari (2), sondos Laajimi (3), sarra sassi (4), bouhoula asma (1), Farrouk Douma (3), Mounir Naija (3), Naoufel Chebili (3)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia
4. , sahloul university hospital,sousse Tunisia, soussse, Tunisia

Keywords: SARS-COV2, pandemic,healthcare workers,stress

Abstract :**Introduction**

The Covid-19 pandemic in 2020 is associated with high public anxiety in the affected countries. Media speculations may have increased this psychological distress. The healthcare community was the most distressed because they were at the highest risk of infection. A major source of disease transmission has been linked to health care facilities, and healthcare workers (HCWs) exposed to cases can contract both symptomatic and asymptomatic infection.

Objective: We explored the emotions, perceived stressors, and coping strategies of healthcare workers who worked during the Covid-19 pandemic in our hospital.

Methods: We developed and administered a "questionnaire" to study participants who worked in high risk areas during the pandemic that occurred in the word. The questionnaire consisted of 5 sections with 76 questions. The sections evaluated hospital staffs emotions, perceived stressors, factors that reduced their stress, coping strategies, and motivators to work during future outbreaks. Responses were scored on a scale from 0-3. The varying levels of stress or effectiveness of measures were reported as mean and standard deviation, as appropriate.

Results: Completed questionnaires were returned by 23 healthcare workers. Participants had a mean age of 31 ± 5.2 years. Male percent was 39.1%. 73.9% were doctors and 26.1% nurse. Female workers had a significantly higher mean stress level than males ($P=0.024$). Ministry announcements were the most common source of information (34.8%).

HCWs ethical obligation to their profession pushed them to continue with their jobs (82.6% answered Very Much). The main sentiments centered upon fear of personal safety and well-being of colleagues and family. Positive attitudes in the workplace, clinical improvement of infected patients, and stoppage of disease transmission among HCWs after adopting strict protective measures alleviated their fear and drove them through the epidemic. They appreciated recognition of their efforts by hospital management and expected similar acknowledgment, infection control guidance, and equipment would entice them to work during future epidemics.

Conclusion: The Covid-19 pandemic is a distressing time for our staff. Hospitals can enhance HCWs experiences during any future outbreak by focusing on the above mentioned aspects.

#23704 : Diagnostic accuracy of PCT in diagnosing a bacterial super infection in patients suspected of Influenza**Authors:**

Carlijn De Gans (1), Kaoutar Azijli (2), Tanca Minderhoud (2), Prabath Nanayakkara (2)

1. , , Amsterdam, The Netherlands

2. , Amsterdam UMC, Amsterdam, The Netherlands

Keywords: PCT, bacterial super infection, influenza

Abstract :

Background: Patients suspected of Influenza present themselves with symptoms similar to bacterial infections, which leads to overuse of antibiotics. Procalcitonin (PCT) can be used to differentiate between a viral and bacterial infection and can be used for discontinuation of antibiotics on the ICU. However, up till now there is little evidence for using PCT to identify bacterial superinfection to guide antibiotic use in the emergency department with the aim of reducing the antibiotic use.

Methods: This study is a non-interventional observational study performed at the emergency department of the Amsterdam UMC the Netherlands. All patients who visited the emergency department with influenza like symptoms and received an influenza test were included. In all patients blood cultures were drawn and PCT determined. The primary outcome was the diagnostic accuracy of PCT in predicting positive blood culture in patients suspected of influenza. Sensitivity, specificity and the area-under-the curve (AUC) for three cut-off values were determined: PCT<0.10, PCT<0.25 and PCT<0.50.

Results: Between 21 January 2020 and 2 April 2020 345 patients were included of which 29 (8.4%) had a positive blood culture. 64 (18.6%) patients were tested positive for influenza and 221 patients (64.1%) received antibiotics at the emergency department. The overall diagnostic accuracy of cut-off value 0.50 was the highest with a sensitivity of 86.21, a specificity of 73.10, a negative predictive value of 98.30 and an AUC of 0.797.

Conclusion: A cut-off value for PCT of 0.50 showed the best overall diagnostic accuracy in predicting positive blood culture and therefore a bacterial infection. If this cut-off value had been used to initiate antibiotics in our population 120 (34.8%) patients would not have received antibiotics. More work is needed if PCT can be safely used to limit antibiotic use in patients suspected of influenza and/or a bacterial superinfection.

#23705 : Injury severity of e-bike and regular bike accidents in Ghent.**Authors:**

Nelleke Walgers (1), An De Wilde (1), Cathelijne Lyphout (1), Evi Steen (1), Peter De Paepe (1)

1. Emergency Department, University Hospital Ghent, Ghent, Belgium

Keywords: e-bike, electric bike, trauma

Abstract :

Background: Cycling is an important means of transport in Ghent, Belgium and its popularity is growing with the introduction of the e-bike. Cycling has many health and environmental advantages, but cyclists are also vulnerable road participants. In Belgium, a rise in bike accidents has been observed in the last two years.

Objectives: The aim of this study was to compare injury severity between victims of e-bike and regular bike accidents.

Patients and methods: In this multicentric prospective observational study, data was collected from June 2019 until February 2020. All patients from the age of 18 years, presenting to one of the four emergency departments in Ghent after a bike accident, were asked to participate in this study. Information on patient demographics, type of bicycle, helmet use and circumstances of the accident was collected. Information regarding the need for hospitalization was also obtained. Injury severity was scored using the Abbreviated Injury Scale (AIS), filled in by the emergency doctor on duty (no specific training).

In a subanalysis of all bike accidents in the level I trauma center, the AIS score was recalculated by AIS manual and the trauma register. The number of missed hospitalized patients on the Intensive Care Unit (ICU) were pursued, also based on the trauma register.

Results: 526 patients were included of which 32,1% were involved in an e-bike accident. Significantly more females were involved in an e-bike accident compared to a regular bike accidents (61,5% versus 43,4%; $p < 0,05$). Patients with e-bike accidents were significantly older compared to patients with regular bike accidents (median age 47,6 yo vs. 37,9yo; $p < 0,05$). E-bike accidents happened mainly when using the bike for commuting. Other bike accidents mainly happened during recreational activities. The median self-estimated speed prior to the accident was similar for both types of bicycles (10-20 km/h). Helmets were worn in 34,0% of the cases, with e-bikers wearing a helmet significantly more often (45% vs 28,9%; $p < 0,05$). In 66% of the bike accidents there was no crash opponent. Road surface defects were most frequently reported as the cause of the accident. Hospitalization was significantly more frequently observed following e-bike accidents compared to regular bike accidents (25,2% versus 11,8%; $p < 0,05$), but the mean Injury Severity Score (ISS) was not significantly different (4,99 versus 4,45).

The recalculated mean ISS in the subanalysis ($n=163$) was significantly lower (3,21 versus 4,01; $p < 0,05$). When the missing patients from ICU ($n=14$) were added to the population, the mean ISS was significantly higher (5,24 versus 4,01; $p < 0,05$).

Conclusion: E-bikers were hospitalized significantly more often than regular cyclists. ISS in e-bikers compared to regular cyclists after a bike accident was not significantly higher. However, non-trained emergency doctors overestimated the AIS. Furthermore, patients with a truly high ISS were missed in this study, likely due to selection bias, resulting in lower mean ISS. Future research should be done systematically and prospectively, based on trauma registers, in which the type of bicycle, helmet use, and circumstances of the accident are registered.

#23706 : The specifics of calls for pre-hospital neonatal suffering**Authors:**

sarra sassi (1), Dorra Loghmari (2), Rabeb Mbarek (3), khaoula rammech (4), wissem chaouch (4), el echi israr (4), ferdoues abdelhamid (5), Mounir Najja (6), Naoufel Chebili (6)

1. , sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, SOUSSE, Tunisia
4. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , sahloul university hospital,sousse Tunisia, s, Tunisia
6. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: prehospital,neonatal suffering,epidemiology

Abstract :**Introduction :**

Neonatal Suffering is a medical condition that threatens the life and psychomotor future of the newborn. It reflects acute fetal suffering . It remains the source of high mortality and often severe and permanent brain damage.

The aim of this work is to specify the epidemiological, clinical and evolutionary profile from a sample of 39 cases of newborns in prehospital.

Materiels and methods :

This is a descriptive retrospective study including all calls for neonatal suffering supported by the emergency medical service of four governorates during the period between April 2016 and October 2018. We did not include stillbirths and unretrieved cardiopulmonary arrest.

Results :

We received 39 calls for suffering newborns with 28 cases at the first hour of birth(71.8%). Most of the calls were from Sousse Governorate 43.6%, Mahdia 23.1%, Monastir 17.9%, Kairouan 15. Almost a third (30%) of the calls were made at night. Premature babies represented 10% of newborns. The reasons for the appeal were mainly for respiratory distress 69%; 17.9% for obstructed labor and 12% for recovered cardiopulmonary arrest.The team was hired for 37 newborns. When emergency medical team arrived, 66% of the newborns were in respiratory distress and 7% in cardiorespiratory arrest.Nearly a quarter (23%) of newborns were hypoglycemic. The Apgar score was calculated for 25 newborns, 18 had an Apgar score between 7–10, four had a score between 4–7 and three had a score below 4. The Silverman score was calculated for 20 newborns, six of whom had a score > 4. More than half (n = 21) of the newborns received oxygen therapy, two of which were intubated, Glucose was administered in six cases. Most of the newborns were transferred to a neonatal center (n = 27), five cases were transferred to the pediatric rehabilitation unit and five babies were left behind.

Conclusion :

Neonatal suffering remains pejorative, prevention and the organization of a well-defined circuit are the only means able to reduce rates of neonatal mortality and morbidity.

#23707 : Mind Yourself: Patterns in presentation of mental health related problems during the covid-19 pandemic, a retrospective audit in an urban Irish Emergency Department**Authors:**

Diane Kell (1), Victoria Meighan (1)

1. Emergency Department, Tallaght University Hospital, Dublin, Ireland

Keywords: covid-19, coronavirus, mental health, emergency medicine

Abstract :

Introduction: The COVID-19 pandemic is an unprecedented public health emergency. The impact on the mental health of the general population is yet to be fully determined. The pandemic has been a source of significant anxiety. Public health measures (lock down) to limit spread of the disease have led to a great degree of uncertainty in relation to employment, as well as a loss of access to normal coping mechanisms (e.g. sports and recreational activities, contact with friends and family and social support). Additionally, access to general practitioner care and community based mental health services is limited. We hypothesised that the combination of these factors would lead to an increase in acute emergency department (ED) presentations with anxiety and mental health related problems.

Methods: We performed a retrospective audit of mental health related presentations in March 2019 (1st to 31st inclusive) and March 2020 (1st to 31st inclusive). We collated the demographic details including gender, age and presenting complaint. We also collected the disposition details including the number of patients requiring acute hospital admission.

Results:

In March 2019, 166 patients presented to the ED with a mental health problem (n=166). 51% were male and 49% were female. In relation to disposition, 24.1% did not wait for an outcome. 0.6% were sent home with no follow-up. 23.6% were referred to the psychiatric OPD, with 8.5% referred to their own GP. The most common presentations included suicidal ideation (27.9%), self harm (10.3%) and depression (5.5%).

In March 2020, 134 patients presented to the ED with a mental health problem (n=134). 54 percent were male and 46 percent were female. In relation to disposition, 13.5% did not wait for an outcome. 5.3% were sent home with no follow-up. 13.5% were referred to the psychiatric OPD, and 13.5% referred to their own GP. The most common presentations included suicidal ideation (24.1%), self harm (12.8%) and deliberate ingestion of a toxin (10.5%).

There was an 21.8% admission rate before the COVID-19 pandemic, compared to 23.9% during.

Discussion:

The COVID-19 pandemic has had a significant impact on anxiety and the mental health of the general population. Furthermore, access to community based care has been limited because of population health measures.

Surprisingly, our data shows that acute mental health related presentations to the ED decreased during COVID-19 pandemic. This is likely multifactorial, with possible explanations including a fear of contracting COVID-19 and/or of causing an unnecessary burden on an already strained emergency department. It is important that those in at-risk groups have appropriate access to services and follow-up, especially during this challenging time. We plan on repeating this audit, comparing April 2019 to April 2020 to investigate if this pattern continued as the COVID-19 pandemic progressed.

#23709 : Problem solving learning in emergency medicine: Effects and student's perception

Authors:

Mounir Hagui (1), Mehdi Ben lassoued (1), Amira Ben Hamida (2), Manel Kallel (1), Khaled Lamine (1)

1. Emergency departement, Hopital militaire, Tunis, Tunisia

2. neonatology departemet, Charles Nicole hospital , TUNIS, Tunisia

Keywords: Problem solving learning - Teaching - evaluation - perception - learner

Abstract :

Introduction: The Problem solving Learning (PSL) is an interactive method of teaching that allows students

to learn at once clinical reasoning and acquisition of knowledge. The PSL is used to assess learner's

competencies.

Aim: To was to assess the educational relevance of PSL in emergency medicine and the perception of

learners.

Methods: Evaluative study carried out in an emergency department on 5 th grade students of medical

studies. We proceeded through a PSL dossier. Were assessed, the size of the effects of the PSL measured

using the Cohen Index (d) reported to the Hattie's effect size scale. The perceptions of learners was

assessed thanks to a questionnaire

Results: 42 students from the Faculty of Medicine of Tunis were enrolled in our study. The relative gain was

greater than 40% in 90% of the cases and greater than 50% in 57% of the cases. The average rating of the

PSL was 12.75 [8.5–17.85]. The effect size (d) of the PSL was 0.9 on the Hattie scale. The overall assessment

of the PSL experience by the learners was very satisfactory in 66.5% of the cases

and excellent in 33.5% of the cases.

Conclusion: The PSL represents a major development in learning pedagogical strategies with a rather

interesting impact and effect size. We strongly encourage the use of PSL as a learning tool in emergency

medicine. Further impact studies at larger scales are needed to confirm our results.

Trial Registration / Funding Information (only) :

aucun conflit d'intérêt à déclarer

#23710 : Awareness of organ donation: Impact of specialized training

Authors:

Rabeb Mbarek (1), Dorra Loghmari (2), sourour briki (3), lahouimel mariem (3), Chrifa Benchikh (4), bouhoula asma (3), hicheri yassine (3), Mounir Najja (5), Naoufel Chebili (5)

1. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, SOUSSE, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. samu 03, sahloul university hospital,sousse Tunisia, sousse, Tunisia
4. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, sousse, Tunisia
5. service d'aide médicale urgente (SAMU) 03 , CHU sahloul sousse, sousse, Tunisia

Keywords: organ donation,training

Abstract :**Introduction :**

Organ donation is regulated by the legislative framework, but citizens are not well informed about this concept.

The aim of the study is to assess the knowledge of students of the Higher School of Health Science and Technology about organ donation.

Materials and methods :

This is an intervention study, of a cross-sectional nature, carried out within the higher school of science and health .The data were obtained from a methodology composed of three methods: a quantitative questionnaire, an awareness seminar under the aegis of the national organ harvesting and transplant center and a post test.

Results :

One hundred and four students were included. The average age of the participants was 20 years. After the training and among our relevant results, the majority of respondents were in favor of organ donation .Regarding religion, most participants believe that Islam allows organ donation. The percentage of students aware of the law, which governs organ harvesting, increased by 21% between the pre and post test. Half of the participants said there are no age limits for organ donation.76% of students before the training and 92% after that think that the consent must be explicit and written. Almost half of our population says that taking samples from a minor requires parental consent. More than $\frac{3}{4}$ of the participants recognize that organ donation is important in saving the lives of others.

Conclusion:

The data collected during this research highlights the importance of awareness campaigns for Tunisians about organ donation.

#23711 : Distinguishing the sticks from the stones – Unexpected findings on CTKUB**Authors:**

Bernard Lillis (1), Ciara Murphy (2), Eziefia Obuseh (3)

1. Emergency Medicine Trainee, Tallaght University Hospital, Tallaght, Ireland
2. Emergency Medicine Trainee, Tallaght University Hospital, Dublin, Ireland
3. Emergency Medicine Consultant, Tallaght University Hospital, Dublin, Ireland

Keywords: radiology, urology, overdiagnosis, sensitivity

Abstract :

Background:

There were 129 CTKUBs performed from Tallaght Hospital Emergency Dept in the first three months of 2020. This non-contrast radiological investigation is the imaging modality of choice to assess for urolithiasis in the context of suspected renal colic. The images examine from above the diaphragm to below the pubic symphysis, and often discover alternative intra-abdominal sources of the patient's clinical presentation, along with other incidental findings. This study in a tertiary academic hospital aims to establish the nature of these non-urolithic findings, assess their significance and evaluate the indication for the examination in the context of the positive rate and clinical presentation.

Methods

All CTKUB examinations within a certain period were accessed using the image ordering system and their findings documented with reference to the patient's clinical presentation. A chart review of each patient's Emergency Dept clinical notes was undertaken and elements of their history and exam evaluated for relevant correlation with elements of the final scan reports, in particular the stone size, position and presence or absence of hydronephrosis.

Results/Discussion

There was a 32.5% positive rate for obstructing urolithiasis in the examination cohort. 22.5% of scans performed in the period were reported with other causes for the patient's presentation found. These included appendicitis, cholecystitis and pyelonephritis. 37.5% of scans were reported with incidental findings unrelated to the patient's presentation, including mural thickening and adnexal cysts. These results suggest a high incidence of findings that were not the intended diagnostic aim of the chosen investigation, raising questions over its appropriateness in certain clinical contexts.

#23712 : Post-traumatic rupture of the aortic isthmus: a case report**Authors:**

wiem Demni (1), Hana Hedhli (2), Anissa Chamssi (3), safia Othmani (3), abdelaziz Ben Tahar (1), Maaref Amel (2), youssef ben brahim (1), Hamed Rym (2)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
3. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia

Keywords: major trauma, emergency, death, aorta, isthmus, tomography, treatment

Abstract :**Introduction :**

Injuries due to trauma constitute one of the leading causes of death and disability worldwide. Traumatic rupture of the aorta is one of the most lethal of these injuries and in most cases, the rupture of the isthmus is the first responsible. Within the last decades, this injury was described in forensic series. Nowadays, many cases are diagnosed at the emergency department with the use of seatbelt and whole tomodensitometry in the early settings. Hence its diagnosis remains a real challenge for the emergency physician in time

Case report :

We report a case of a 42-year-old male with no medical history, brought by the prehospital emergency medical system to our emergency department. Circumstances were in favor of high velocity. On physical examination; he presented with secured airways. The breathing rate was 26 per minute, pulse oximetry on air (SpO₂) was at a level of 96%, pulmonary auscultation was normal. Blood pressure was 120/80mmHg and symmetric, pulse rate was 85 beats per minute and heart sounds were normal. Glasgow coma scale (GCS) score was 11, and he was agitated. There was no focal neurological deficit, pupils were intermediate and reflective. Moreover, we noticed an occipital scalp wound of 7 cm and abrasions on the left flank and the right knee. The patient was put on cardiac monitoring, and oxygen supplementation was initiated. Bilateral intravenous lines were instituted then he was intubated and ventilated because of neurological distress. Whole-body Computed tomography (CT) was performed immediately after the initial stabilization and noticed: brain contusion and traumatic subarachnoid hemorrhage associated to a traumatic aortic isthmus disruption: There was an aneurysmal dilatation of the third segment of the thoracic aorta, at the origin of the left subclavian artery measuring 34 mm over 60 mm. Patient management focused on tight blood pressure control, and secondarily thoracic endovascular aortic repair (TEVAR) has been undergone successfully.

Conclusion :

Traumatic aortic rupture is a life-threatening injury that requires rapid diagnosis and treatment in the emergency field. Most aortic injury patients surviving to hospital have contained rupture and could be temporarily managed with blood pressure control until definitive repair. Current guidelines support TEVAR as a first-line repair method for traumatic isthmus rupture.

Authors:

MANEL KALLEL (1), Khadija Zaouche (2), Radhia boubaker (2), ramlia baccouche (1), HAMIDA MAGHRAOUI (1)

1. EMERGENCY DEPARTMENT, RABTA HOSPITAL, TUNIS, Tunisia

2. service des urgences la Rabta, EPS la Rabta, faculté de medecine du Tunis, TUNIS, Tunisia

Keywords: hysterical conversion, emergency, prognosis

Abstract :

Introduction: Although it is a recognized neurosis, hysterical conversion encumbers often the flow of emergency room visits and is less taken into consideration by the doctor emergency doctor who prefers to focus on life-threatening emergencies. However, this pathology often hides from a pathological personality. The objective of our work is to study the epidemioclinical and upgradeable

of emergency department patients in a hysterical conversion table

Methods: Prospective study over 3 months in the emergency department. Any patient with consulted the emergency room and who was diagnosed with hysterical conversion during an emergency room visit judgment clinical. All patients were referred to the psychiatric outpatient clinic and a follow up The Tunisian Society of Emergency Medicine telephone was provided at three months.

Results: We collected 164 patients. The mean age was 30 ± 11 years with a sex ratio to 0,41. Our patients were non-occupational in 57% of cases and had a level of education university in only 23% of cases. Thirty-four percent already had a disorder known psychiatrist and 61% of them were on antipsychotic treatment. The main grounds for somatic pain in 79% of the cases, speech impediment was the most common complaint found at 22% of the patients and an altered state of consciousness was noted in 20% of the cases. The treatment received in the emergency room was oxygen therapy.

In 43% and an intramuscular placebo injection in 33% benzodiazepine in 2 case and that of a neuroleptic in only one case. The three-month follow-up found that the diagnosis of depression was made in 61% of cases, bipolarity in 16% and anxiety in 23%.

Conclusion: Hysterical conversion is a pathology whose prevalence is frequent at emergency room, but still does not get enough attention from young emergency physicians. A catch from awareness of the reality of psychiatric disorder is imperative.

Trial Registration / Funding Information (only) :

aucun conflit d'intérêt à déclarer

#23714 : Fulminant myocarditis and a young man's life saved during COVID pandemic: a case report

Authors:

federico zanardi (1), lorenzo della bella (2), irdi memaj (2), ivan oppedisano (1), carlo preti (3), andrea alesi (4)

1. er resident, bergamo, bergamo, Italy
2. ER resident, bergamo, milano, Italy
3. er resident, bergamo, milano, Italy
4. er resident, bergamo, firenze, Italy

Keywords: acute myocarditis, covid, prehospital, cardiac arrest, ventricular fibrillation, cardiopulmonary resuscitation

Abstract :

a case report of a sudden cardiac arrest due to acute myocarditis of indefinite etiology
DD between congenital channel heart abnormalities, sarcoidosis and dilatative cardiomyopathy
educational relevance: a life saved during the peak of our epidemic outbreak in Bergamo

Attachment: 30.04 abstract.docx

#23715 : Covid-19 : Clinical score efficiency

Authors:

abir ouederni (1), Dorra Loghmari (2), hicheri yassine (1), sondos Laajimi (3), nejah Chebili (1), Sami Ben Ahmed (3), Mounir Naija (3), Naoufel Chebili (3)

1. samu 03, sahloul university hospital,sousse Tunisia, soussse, Tunisia
2. emergency medical service(SAMU), sahloul university hospital,sousse Tunisia, SOUSSE, Tunisia
3. service d'aide médicale urgente (SAMU) 03 , CHU sahloul soussse, soussse, Tunisia

Keywords: covid-19,score , risque

Abstract :**Introduction:**

The clinical signs of Covid-19 are those of an acute respiratory infection, ranging from pauci-symptomatic forms to severe forms with multi-visceral failure, other atypical forms have been described especially in the elderly. Therefore the world Health Organization (WHO) has insisted on expanding covid-19 testing as soon as the pandemic is declared. In the same perspective, it seemed important to us to establish a clinical score by which we can define a suspectcase.

The purpose of this work is to assess the reliability of this score in the fact that a suspect case will be a positive one.

Methodology :

This is a retrospective, mono-centric descriptive and analytical study over a period from March 1, 2020 to April 30, 2020 which includes patients with covid-19 and whose confirmation is made by RT-PCR on a nasopharyngeal swab

Results :

On our sample we report 65 patients confirmed positive for covid-19, 32 men (49.2%) and 33 women (50.8%) . The age of the patients is between 22 and 79 years. The average age is 45.85 years. 11 patients (16.7%) have associated comorbidities

All of these patients were initially defined as "suspect" according to a previously established clinical score.

This clinical score includes:

- Fever: 2
- Cough: 1
- Dyspnea: 2
- Headache: 1
- Sore throat: 1
- Nausea, Vomiting: 1
- Diarrhea: 1
- Anosmia, Ageusia: 2
- Asthenia/ tiredness: 1
- Body aches / myalgia: 1
- Family symptoms: 2
- Risky situation :
 - Profession (health / community): 1
 - Contact positive subject: 2
 - Contact with return from abroad: 1
 - Return from an endemic area: 1
- Age over 60: 1
- Comorbidities:
 - Diabetes: 1
 - Heart failure: 1
 - Chronic respiratory failure: 1

Total: 22 points.

A patient is suspect if he has a score over or equal to 4.

The average score of covid19 positive patients is 4.98 going from 1 to 10.

For 65 positive covid-19, 48 patients (80%) had a score over or equal 4 with 13

patients (20%) had a score less than 4.

For infected patients with a score lower than 4: 7 patients had a score = <2) and 6 patients had a score of 3.

Note that the 7 covid-19 positive patients whom score is = <2 which 3 patients were asymptomatic and 4 patients only had a cough their samples were taken as part of a screening survey of the entourage of other positive cases.

Conclusion:

In our study series, 80%of the cases had a reliable score , but this depends on the evolution of the pandemic, which also requires an update of the definition of suspect cases according to clinical scores.

**#23716 : IMPROVING THE SAFETY AND EFFICACY OF FASCIILIACA COMPARTMENT BLOCKS IN THE EMERGENCY DEPARTMENT OF
SLIGO UNIVERSITY HOSPITAL**

Authors:

Emmanuel Osakwe (1), Ali Omer Abdalla (1), Ahmed Al-rasheed (1), Aine Mitchell (1), Michael Sweeney (1)

1. Sligo University Hospital, Sligo University Hospital, Sligo, Ireland

Keywords: safety, fascia iliaca compartment block, regional anaesthesia, POCUS, analgesia, pain scores, ultrasound guided blocks

Abstract :

Hip fractures are a source of significant morbidity and mortality. Mortality rates range from 25% in women to 37% in men during the first year post injury. According to the Irish Hip Fracture Database figures published in November 2019, over 3751 cases of hip fractures were recorded in patients over 60 years old with 69% being female.

Unfortunately, adequate analgesia in these patients could be difficult to provide due to multiple comorbidities, medication side effects and patient preferences.

Good analgesia post hip fracture is associated with significantly improved outcomes, while on the contrary, oligoanalgesia predisposes them to delirium, which in turn increases 1-year mortality and morbidity. A fascia iliaca compartment block performed in the acute management of hip fractures can provide great pain relief and reduce the reliance on opiates and NSAIDs which could have significant side effects in these fragile group of patients.

The risk of local anaesthetic toxicity from this procedure is greatest in the first 30 minutes mandating the need for close monitoring. Also, if the block is performed after the administration of opiate analgesia, one must be alert to the possibility of exacerbating undesirable side-effects like apnoea once the painful stimulus has been removed(5).

Improving the safety and effectiveness of this procedure amongst other measures requires adequate monitoring of vitals post the procedure as well as pain scores, as an objective measure of effectiveness of the block. The Royal College of Emergency Medicine (RCEM) recommends that frequency of post procedure observations should be at a minimum of 5, 10, 15, 30 mins post procedure

AIM:

Our focus was on documentation of pain score pre and post procedure to evaluate effectiveness of the block and also post procedure observations recorded at 5, 10, 15 and 30mins post block as recommended by RCEM.

Our aim was to conduct a baseline audit of our current practice, comparing it with RCEM recommendation with a view to improving the safety and effectiveness of our blocks.

METHODS:

A retrospective audit of 10 adult patients who were diagnosed with hip fractures in the Emergency department of Sligo University Hospital in August 2019 and received a fascia iliaca compartment block for pain relief. Patient details and information on their visit to our emergency department were gotten from iPMS system and medical records.

We assessed documentation of pain severity scores pre and post the procedure and documentation of vitals post procedure at 5, 10, 15 and 30mins.

RESULTS:

We observed 50% documentation of pre-block pain score, 10% for post block pain score and 0% for vitals as recommended by RCEM

INTERVENTION:

Safety campaigns to create more awareness on the risk of local anaesthetic toxicity and opiate related apnoea

Introduction of a procedure sheet for fascia iliac block to be added to the current neck of femur pathway, to prompt and facilitate proper documentation of pain score and vitals before and after the procedure

RE-AUDIT: Data collection currently in progress.

#23717 : Acute polyradiculoneuritis at the emergency department**Authors:**

wiem Demni (1), Asma jendoubi (2), Hana Hedhli (3), montassar bhourri (1), amira bakir (1), dhekra hosni (1), houyem zouari (1), Hamed Rym (3)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia

Keywords: emergency, neurology, diagnosis, prognosis,

Abstract :

Introduction :

Acute polyradiculoneuritis develops due to an inflammatory reaction that affects spinal and cranial nerve roots and peripheral nerves, which can be observed in all ages and may cause hemodynamic and respiratory instability. This neurological condition may be difficult to diagnose at an early stage in the emergency department and remains a challenge for the emergency physician.

Observation :

we report a case of a 48-year-old man, with no medical history, who came to the emergency department with muscle weakness and walking ability disorders with gradual worsening over three days, associated with swallowing problems and dysphonia.

Upon clinical examination, the patient was afebrile and hemodynamically stable. He was eupneic, oximetry pulse was at a level of 92% on air and pulmonary auscultation was normal. Glasgow coma scale (GCS) score was 15, there was a flaccid tetraparesis predominant in both lower limbs and on the left. The standing position was impossible. Walking was possible with help showing a steppage. There was hyperreflexia in all limbs and positive bilateral Babinski sign. He had dysphonia, swallowing problems, and ineffective coughing. A blood test showed: WBC=18300/mm³, CRP=0.3mg/dl, créatinine=68 µmol/L, Na⁺/K⁺=140/3.6 mmol/L ; serum calcium levels=2.25 mmol/L, blood gas analysis (in ambient air) : pH=7.43 PaO₂=62mmHg paCO₂=41 mmHg HCO₃⁻=27.2 mmol/L SaO₂=92%, lactates=1.6mmol/L (with A-a oxygen gradient at 36.7 mmHg)

A cranial computed tomography and a cranial and spinal MRI were performed, but there were no abnormal signs. Lumbar puncture examination showed clear cerebrospinal fluid, with normal cell count, normal protein level, and normal glycorrachia.

On electrophysiological diagnosis, acute demyelinating polyradiculoneuritis with severe secondary loss of axons was objectified. The patient was managed with non-invasive ventilation initially, but his respiratory state had quickly deteriorated and required mechanical ventilation.

Treatment with intravenous immunoglobulins was started, and the patient was transferred to the intensive care unit for additional care. No etiology was retained after an initial investigation.

Conclusion:

GuillanBarré Syndrome is a serious, potentially deadly condition, its diagnosis is not always obvious. Atypical forms are common, electromyography and nerve conduction studies are essential to confirm the diagnosis and to determine the prognosis.

#23718 : The prognostic value of early lactate clearance for survival after out-of-hospital cardiac arrest**Authors:**

Willemina Sofie Lonsain (1), Loranne De Lausnay (1), Lina Wauters (1), Philippe Dewolf (1)

1. Emergency department, KU/UH Leuven, Leuven, Belgium

Keywords: out-of-hospital cardiac arrest lactate clearance prognostication

Abstract :

BACKGROUND: Prognostication of survival after out-of-hospital cardiac arrest (OHCA) remains challenging with current guidelines recommending the prognostication no earlier than 72 hours after return of spontaneous circulation (ROSC). Prognostic factors that could be used earlier after ROSC, like lactate clearance, are still being studied.

OBJECTIVES: This paper aims to investigate the prognostic strength of early lactate clearance for survival after OHCA.

METHODS: This retrospective observational single-center study focuses on patients for whom ROSC was achieved after OHCA. Patients ≥ 18 years admitted between September 2012 and January 2019, for which arterial serum lactate measurements were available immediately at and 3h after hospital admission (T0 and T3), were included.

RESULTS: 192 patients were included. Lactate clearance at T3 ($p < 0.001$) was identified as an independent predictor for 24h survival with 83.9% sensitivity and 50.0% specificity. Witnessed arrest, bystander CPR and initial shockable rhythm were independent significant predictors for long term survival (1 month, 3 months and 1 year; $p < 0.05$), but not for 24h survival. Age (above or below 65 years) was not significant for predicting survival. Upon combination of witnessed arrest, bystander CPR and initial shockable rhythm in a multivariate logistic regression model for long term survival, the initial rhythm was the dominant factor in the combined model, making witnessed arrest and bystander CPR redundant.

CONCLUSION: Higher lactate clearance at T3 after ROSC is associated with 24 h survival. Further research is needed to allow combining lactate clearance in a clinically useful tool to predict long term survival.

#23719 : Emergent intervention on retirement houses because of covid-19. Was it worth it?**Authors:**

Angela Maria Arevalo Pardal (1), Ana Ramos Rodriguez (2), María de la O Gutiérrez García (3), Carolina Ossa Calderón (4), Sara García Vaquero (5)

1. EMERGENCY DEPARTMENT, RIO HORTEGA UNIVERSITY HOSPITAL, VALLADOLID, Spain
2. Parquesol Health Center, Sacyl, Valladolid, Spain
3. Tordesillas Health Center, Sacyl, Valladolid, Spain
4. Villa del Tratado Nursing Home Physician , none, Valladolid, Spain
5. Villalon Health Center, Sacyl, Valladolid, Spain

Keywords: coronavirus infections, elderly, pandemics

Abstract :**BACKGROUND**

The situation related to the COVID-19 pandemic has been unexpected. We know that elderly people are at highest risk when it comes to the effects of the disease, and treatments according to expectance of life must be adapted. Hospital admissions has been outnumbered, so in certain areas, an early intervention by means of transforming nursing homes into medicalized buildings under the direct command of emergency physicians in rural and urban areas has resulted in a substantial change to their expectance of life. The appliance of the same curative treatments with no need of common hospital admissions, in addition to the humanization of these places, could be a important point in order to improve the survival of this fragile collective.

METHODS

Observational prospective study. Period: 2 months. All the nursing homes were transformed into medicalized buildings during the COVID-19 pandemic, which means use of same isolation measures, use of personal protection equipments at every moment, same curative treatments as a common hospital, organized and maintained by emergency physicians, who explore, apply treatments and do the follow-up. We randomly selected two nursing homes from our area, one from urban and one from rural placement. Variables: Number of patients, age, sex, previous medical records. SARS-COV-2 PCR result, date of result, symptoms, treatments applied (antibiotics, hydroxychloroquine, lopinavir/ritonavir, corticosteroids, anticoagulation, supplemental oxygen therapy), follow-up, need of inhospital admission due to complications, deceases before and after intervention (date and causes).

RESULTS

Urban nursing home (UNH): Patients: 60, 81% female. SARS-COV-2 PCR positive: 65. Asymptomatic: 32. Respiratory symptoms 12, GI symptoms 8. Treatment used according to the Health Guidelines published by the Department of Health. Antibiotics: azithromycin 85%, amoxicillin 30%, ceftriaxone 35%, hydroxychloroquine 20%, anticoagulation with low-weight molecular heparin (LMWH) 70%, corticosteroids 90%, oxygen therapy 50%. No complications due to therapy were found. Need of inhospital admission in 2 patients. Deaths before intervention 6 (5 of them severe acute respiratory distress, one at hospital due to massive embolism despite LWMH), after intervention 2 (respiratory symptoms). Rural nursing home (RNH): Patients: 96, 80.20% female. SARS-COV-2 PCR positive: 83. Asymptomatic: 57. Respiratory symptoms 19, GI symptoms 20. Use of antibiotic on symptomatic patients: azithromycin 79.48%, amoxicillin 17.97%, ceftriaxone 46.15%, hydroxychloroquine 5.12%, anticoagulation with low-weight molecular heparin (LMWH) 100%, corticosteroids 74.35%, oxygen therapy 41.02%, stopped after improvement in 89.74%. No complications due to therapy were found. Need of inhospital admission in 4 patients. Deaths before intervention 16 (all of them at the nursing home due to severe acute respiratory distress), after intervention 9 (progressive worsening of respiratory symptoms). No statistical differences were found when comparing both groups.

CONCLUSIONS

Use of curative treatments at nursing homes, under the direction of emergency physicians has led to an improvement in the survival of these patients, without contributing to the collapse of hospitals during pandemic. Surprisingly, a large number of this high-risk population has a asymptomatic infection.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding.

#23720 : How to choose the right type of fluid in the hospital: a narrative review

Authors:

Goswin Onsia (1), Sarah Bots (1), Niels Van Regenmortel (2)

1. Emergency department, University Hospital of Leuven, Leuven, Belgium
2. Department of Intensive Care Medicine, ZNA Ziekenhuis Netwerk Antwerpen Campus Stuivenberg, ANTWERPEN, Belgium

Keywords: fluid, resuscitation, maintenance, hyperchloraemia

Abstract :

Background: There are only few guidelines available concerning intravenous fluid therapy in the hospital. With this narrative review, we aimed to provide insight into choosing the right type of fluid in different situations.

Methods: A review of the existing literature concerning fluid therapy in the adult was performed and ended the 1st of March 2020. We assessed fluid therapy in critically and non-critically ill patients. Given the heterogeneity of study designs, we decided to present our findings in a narrative manner.

Results: There are three reasons for intravenous fluid therapy and one inadvertent source.

Maintenance fluids provide patients' daily requirements when oral intake isn't sufficient. One litre of normal saline contains twice the amount of sodium needed daily for an average adult. By using hypotonic instead of isotonic fluids, we can obtain a higher urine output and a lower positive fluid balance as well as a lower incidence of hyponatremia and hyperchloraemia. Potassium is often under dosed out of fear of hyperkalaemia. However, in absence of kidney injury, ill individuals probably need more potassium than healthy ones. A maintenance solution should also contain glucose or dextrose to prevent ketone formation.

Replacement fluids should replace lost body fluids by matching the volume as well as the electrolytes. The fluid of choice will often be a balanced isotonic solution. By exception, the loss of chloride-rich gastric fluid should be replaced by chloride rich solutions like NaCl 0,9%. Also the loss of free water, as seen in osmotic diuresis or diabetes insipidus, is preferably compensated with electrolyte free solutions like glucose 5%.

Resuscitation fluids are used for treatment of intravascular hypovolemia. Until now, the isotonic crystalloids remain the preferred solutions for resuscitation. Colloids contain molecules of at least 30 kDa, aiming to better maintain intravascular colloid osmotic pressure. The most known colloids, the hydroxyethyl starches (HES) however, were associated with acute kidney injury in the critically ill, explaining the decline in their use. Gelatins are an older type of synthetic colloid for which there is still a lack of scientific data supporting their use. Albumin is the most abundant protein in plasma and seems like an obvious choice for resuscitation. Although their added value has not been established, they are considered safe.

Balanced crystalloids cause less metabolic acidosis than NaCl 0,9%, but the clinical significance of this fluid-related acidosis is not clear. Recently, balanced crystalloids were shown to cause less adverse kidney events in the critically and non-critically ill when compared to normal saline. Probably, the lower chloride burden is beneficial for renal function.

Fluids inadvertently infused as solvents for medication, known as fluid creep, are often overlooked. Changing solvents to glucose 5% can help lowering their sodium and chloride burden.

Conclusion: Choosing hypotonic solutions as maintenance therapy, together with attention for fluid creep and the use of balanced crystalloids for resuscitation, could lower the amount of sodium and chloride administered and therefore its detrimental effects. Further research is needed however to support a more evidence-based fluid management.

Trial Registration / Funding Information (only) :

This study did not receive any specific funding. This study was not registered since there were no patients involved.

#23721 : A spontaneous imminent aortic aneurysm rupture: a case report

Authors:

wiem Demni (1), Asma jendoubi (2), amira bakir (1), aymen zoubli (3), Maaref Amel (4), youssef ben brahim (1), abdelaziz Ben Tahar (1), wafa sleimi (1), Hamed Rym (4)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency department Charles Nicolle Hospital, Hospital, tunis, Tunisia
4. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia

Keywords: emergency, diagnosis, cardiovascular disease, treatment, aorta,

Abstract :

Introduction:

An aortic aneurysm is defined as a dilation of the subdiaphragmatic aorta diameter greater than 3cm. Aneurysm rupture represents the most feared complication. When aneurysm rupture, the mortality increase to more than 80%; that's why efforts have been made toward early detection.

Case report

In this observation, we report a case of a 65-year-old male with a history of non-obstructive coronary artery disease, hypertension, who came to the emergency department with abdominal pain. His medication included aspirin 125mg, amlodipine 5mg daily. He described an aching pain in the lower abdomen. He denied fever, melena, diarrhea, or urinary sign. The patient's vital signs were within normal ranges. On physical examination, the patient was feeling pain. The pain measurement scale was 10. The patient's abdomen was tense and distended, his pulses were intact and symmetrical in the upper and lower extremities. An abdominal CT scan was performed and revealed an infrarenal aortic aneurysm measuring

70*57*60 cm with an aortic wall hematoma. A giant left retroperitoneal hematoma measuring

10*6*20 cm with active bleeding was noticed. Within the 30 min of the scan, the patient was unconscious and pulseless, and cardiopulmonary resuscitation was initiated. The patient was intubated, a central venous line was placed, norepinephrine was initiated and permissive systolic blood hypotension around 70-80 was respected. The cardiovascular surgeon was called, but the patient died after an unsuccessful resuscitation effort.

Conclusion:

Aortic abdominal aneurysm rupture is a critical event with a high mortality rate. A thorough investigation of the risk factors and clinical presentation of impending rupture allows physicians to give adequate therapeutic behavior.

#23722 : Introducing Simulation to a Point of Care Ultrasound Course to Improve Education around Clinical Decision Making**Authors:**

Catherine Holmes (1), Mohit Arora (2)

1. Emergency Medicine, Dr, Huddersfield, United Kingdom
2. Emergency Medicine, Dr, Leeds, United Kingdom

Keywords: Simulation, ultrasound, POCUS, decision-making, education

Abstract :**Background**

In Yorkshire and Humber deanery, point of care ultrasound(POCUS) is initially taught to trainees in a two-day course. It is acknowledged that this course teaches the practical skills effectively. However, there was a gap around teaching the clinical decision skills to complement the use of POCUS in everyday practice.

Group simulation sessions were introduced into the course to help the learners to understand how and when POCUS can add to their clinical decision making(CDM). This study was designed to evaluate the effectiveness of these simulation sessions.

Methods

Participants on the course took part in two group simulations run in real time and watched colleagues in a further two simulations. After participating in the simulation, verbal debriefing(specifically around the CDM opportunities of POCUS) occurred with the group by an instructor.

Over three courses in 2019-2020, all the learners were asked to complete a questionnaire before and after the simulation session.

Questions included: what previous POCUS experience the students had and how confident they were with the four scanning competences (Vascular Access(VA), Abdominal Aortic Aneurysm(AAA), ECHO and Focussed Assessment Sonography in Trauma(FAST)). Further questions allowed us to compare the confidence levels of using POCUS in clinical practice, when they should use it and if it will help them with their CDM.

Results

37 learners filled in the pre simulation questionnaire and 36 of these also filled in the post simulation questionnaire.

The pre-simulation questionnaire showed that the course had increased confidence levels in performing POCUS an average of 7/10 in VA, 8.8/10 in AAA, 8.8/10 in ECHO and 8.7/10 in FAST.

Confidence levels of performing POCUS in their day to day work increased from 6.9 to 8.2/10 after the simulation session.

Knowing when to perform POCUS in their day to day practice increased from 7.5 to 8.6/10 after the simulation session.

Knowing how to use POCUS to aid with clinical decision making increased from 7.3 to 8.5/10 after the simulation session.

Participants scored an average of 9.1/10 when asked how helpful the simulation was to understand how to transfer the POCUS skills that you have learned into clinical practice.

Discussion and Conclusion

These results confirm to us that the POCUS course is already effective at increasing confidence levels at performing all forms of POCUS taught. It is likely that previous experience in the use of POCUS in vascular access (35/37 participants currently using this before the course) was the reason why the perceived increase in confidence in this skill was less than the other three.

After the new simulation session there was a demonstrable increase in confidence levels of using POCUS in clinical practice, when to use it and knowing how to use it to aid CDM suggesting that the simulation session on its own is a valuable learning experience.

We have found that adding simulation to a course aimed to teach a practical skill is valuable in aiding how to transfer the skill to the clinical area, increasing understanding of when and how to use it to aid with CDM.

Trial Registration / Funding Information (only) :

No requirement for registration - no patient involvement. No funding received.

#23723 : Incidence of Hypothermia in Scottish Retrieval Patients**Authors:**

Mohyudin Dingle (1), Alasdair Corfield (2)

1. Emergency Department, Queen Elizabeth University Hospital, Glasgow, United Kingdom
2. Emergency Department, Royal Alexandra Hospital & Emergency Medical Retrieval Service, ScotSTAR, Paisley, United Kingdom

Keywords: Retrieval; Prehospital; Accidental Hypothermia; Temperature Management; Aeromedical Transfer

Abstract :

Introduction

Critically ill and injured patients are at risk of hypothermia through environmental exposure and physiological insult, especially when outdoors. Hypothermia is harmful, so prevention and reversal are resuscitation goals in the retrieval environment, as they are in the Emergency Department. The Emergency Medical Retrieval Service (EMRS) serves to resuscitate and transfer critically ill and injured patients across Scotland and must manage the risk of hypothermia in their patients. They keep a database of their cases. The aim of this study was to identify the incidence of hypothermia for EMRS patients.

Method

All cases from 3rd January 2011 to 12th December 2019 were extracted to form a database of patients' temperatures. The time points for these temperatures included time of referral to EMRS, EMRS arrival to patient, pre-departure, in transit and on handover to destination hospital. Temperatures were taken by ear tympanic membrane measures or invasive temperature probes. Any instance of a patient temperature recorded below 35° C was identified.

Results

6813 cases were identified in the study period. Of these, 2493 (36.6%) had a temperature recorded in the database. 280 of 2493 cases (11.2%) were hypothermic (temperature below 35° C) on at least one occasion.

Conclusion

This large case series demonstrates that hypothermia is present for a sizable minority of Scottish Retrieval patients. It also highlights poor recording rates of temperature, perhaps due to the feasibility of measurement during busy mobile retrievals.

Accidental hypothermia in the pre-hospital and retrieval phase will impact clinical course on arrival to the ED. Further work is needed to study patient and environmental risk factors for heat loss. In addition, assessment of the efficacy of current patient packaging strategies are required to improve this core component of optimal patient care.

Trial Registration / Funding Information (only) :

N/A

#23724 : Negative nasopharyngeal swab in covid-2019 patients: the role of arterial blood gas and lung ultrasound. A survey from an italian university hospital.

Authors:

Flavia Resta (1), Bruno Barcella (1), Giovanni Cappa (2), Giulia Vezzoni (3), Lorenzo Demitry (2), Tonia Persiano (2), Francesca Zugnoni (2), Caterina Zattera (2), Gianmarco Secco (2), Marzia Delorenzo (2), Francesco Salinaro (2), Stefano Perlini (4)

1. EM resident, University of Pavia (Italy), Bergamo, Italy
2. EM resident, University of Pavia (Italy), Pavia, Italy
3. EM resident, University of Pavia (Italy), Milano, Italy
4. Professor of Emergency Medicine, University of Pavia (Italy), Pavia, Italy

Keywords: COVID-2019, negative, lung, ultrasound, LUS, nasopharyngeal, swab

Abstract :

Background: Coronavirus disease 2019 (COVID-19) is a respiratory tract infection caused by the novel virus SARS-CoV-2, the seventh coronavirus known in the world. Currently Italy, and especially the north of the country, represents one of the biggest coronavirus outbreak outside Asia. To date April 30, 2020, in Lombardy region we count more than 71 256 people infected and 13 106 deaths. Being aware of the limitation of the Nasopharyngeal Swab (NPS) in terms of sensitivity, time and costs, we think that, in a such dramatic situation, Lung Ultrasound (LUS) and Arterial Blood Gas Analysis (ABG) may be two important tools helping the physicians to assess patients in the emergency department (ED).

Aim of the study: The aim of the study was to analyse the characteristics between the population that had a first negative NPS for Co-Sars-2 at the admission and the sub-group with a subsequent positive one and to evaluate the role of ABG and LUS in the management of patient suspected for Covid-19.

Methods: we enrolled a cohort of 200 patients suspected for COVID-2019, evaluated in our ED from March 3 to April 16, 2020 with a first negative NPS for Sars-Cov-2 at admission. All patients were tested with NPS, ABG and LUS. We used a quantitative scoring system for LUS (qLUSS) dividing each hemithorax in six fields (2 anterior, 2 lateral and 2 posterior). We assigned a score from 0 to 3 on the basis of the artifacts and the loss of aeration for each area (0 = normal lung; 3 = complete loss of aeration). The total score was obtained by the sum of all areas. Data were analyzed using t-student test for unpaired populations.

Results: Over our 200 patients, females were 79 (39.5%) and males 121 (60.5%). The most common symptoms were fever (80.5%), dyspnea (44%), cough (42%) and asthenia (10.5%). Out of the initial population, 101 patients repeated the NPS. 20 patients (20%) resulted positive while 81 (80%) remained negative. The major differences were found in the value of the P/F ratio, with an average value of 232 ± 128.19 in the 20 false negative population versus 310.87 ± 132 in the 200 patients ($p=0,011$) and of the qLUSS with an average value of $12.15 (\pm 6.26)$ versus $7.89 (\pm 6.84)$ in the 200 negative ones ($p=0,008$). Among the 20 false negative patients, 15 (75%) were hospitalised (6 in Intensive Care Unit ICU, 30%), and 6 patients died (30%) versus 59 hospitalised among the 81 negative patients (72%), (6 in ICU, 7%) and 8 died (10%). We also observed that the percentage of patients admitted in ICU or deceased was higher in false

negative patients.

Conclusion: the use of the P/F Ratio of ABG and the LUS can improve the detection of covid 19 false negative patients on NPS for Covid-2019. Moreover, lung ultrasound can help physicians to decide if patient can be safely ruled out for covid 19 or if a second NPS is needed.

Trial Registration / Funding Information (only) :

Funding: this study did not receive any specific funding. Ethical approval: not needed.

#23725 : Intercostal lung herniation secondary to thoracotomy : A case report

Authors:

Mehdi Ben lassoued (1), Manel Kallel (1), samira mhamdi (2), ines AOUNI (2), S DABOUSSI (3), H MAHFOUDHI (2), Khaled Lamine (1)

1. Emergency departement, Hopital militaire, Tunis, Tunisia

2. PNEUMOLOGY, military hospital, TUNIS, Tunisia

3. PNEUMOLOGY, military hospital, TUNIS, Suriname

Keywords: hernia, lung, chest, Surgery.

Abstract :

Introduction : Intercostal lung herniation is defined as a protrusion of the lung parenchyma through a defect in the intercostal muscles between adjacent ribs.

Case report :The authors report a case of intercostal pulmonary hernia in a 45-year-old male patient, with smoking habit (30 packs-year), presented to the emergency department with dyspnea He had the history of pulmonary emphysema complicated with a total right pneumothorax in 2015 treated by minithoracotomy with bullectomy and pleural abrasion. In 2019, He was admitted to hospital for left chest pain The CT scan of the chest revealed a bilateral emphysema with Intercostal lung hernia through the fourth intercostal space The patient underwent, a left thoracotomy with repair of the intercostal muscle defect. He was discharged from hospital free of complications.

Conclusion:

Lung herniation should be considered in the differential diagnosis of patients who present with localized pain and subcutaneous emphysema after thoracic surgery. CT imaging and surgical consultation should be evaluated at an early stage. Conservative management is usually enough for mild

and moderate herniation.

#23726 : The efficacy of a Mobile Emergency Group: an analysis of 1031 interventions**Authors:**

Sofie-An Van Biesen (1), Katleen Devue (2), Joost Bierens (3), Ives Hubloue (3)

1. Emergency department, UZ Brussel/ASZ Aalst, JETTE, Belgium
2. Emergency department, ASZ Aalst, Aalst, Belgium
3. Emergency department, UZ Brussel, Brussel, Belgium

Keywords: Prehospital, Emergency Medicine, Mobile

Abstract :**Background**

When someone in Belgium calls the emergency number "112", three types of interventions are possible: a regular ambulance (RA; 2 ambulance providers), a Prehospital Intervention Team (PIT; 2 ambulance providers, 1 nurse) and a Mobile Emergency Group (MEG; 1 doctor and 1 nurse). The MEG provides the highest level of care, but is also the most expensive option and affects the functioning of the Emergency Department where the staff is stationed. This study investigates the efficacy of a MEG.

Methods

In this prospective cohort study (1-10-2019 to 30-3-2020), all the physicians and nurses of 3 MEG's in 2 Belgian cities were asked to fill out a questionnaire about each intervention. The study was stopped when 1000 valid questionnaires were received.

The first hospital, located in Brussels, is a large University Hospital with the availability of a PIT in the region. The 2 other hospitals are located in Aalst (OLV + ASZ) and are large city hospitals, without availability of a PIT in their region. Every two weeks the MEG staff shifts between them. After each intervention both MEG members assessed the appropriateness of the intervention. Based on the technical acts performed, they indicated which option would have been the most appropriate.

No specific funding has been granted for this study.

Ethical approval has been obtained from the ethics committees of all hospitals involved.

Results

There were 1031 questionnaires available for analysis. Globally in 34% of the MEG interventions the MEG was assessed as the most adequate option.

There were differences between the locations: in Brussels (n=539) doctors resp. nurses considered 162 (39%) resp. 180 (33%) of the interventions appropriate. In Aalst (n=492) this was 178 (36,2%) resp. 174 (35,3%). There were however also significant differences between both Aalst locations: OLV (n=240): 116(48%) resp. 112(46%) vs ASZ(n=252);62(25%) resp. 62(25%)

In Brussels 42% and 44% of the doctors and nurses had more than 5 years of experience in a MEG. in OLV this was 35% resp. 45%, in ASZ 58% resp. 69%.

Discussion

The preliminary analysis of this study provides worrisome information about the appropriateness of the decision to dispatch a MEG. Current practice may negatively influence the efficacy of both the prehospital system and the emergency department. Further analysis may reveal if the presence of a PIT, the years of clinical experiences by doctors and nurses, the provided interventions or other factors may have affected the differences. Another element of interest is whether doctors and nurses can reliably predict if a MEG intervention is a waste of resources and to objectify our data by checking them with more objective findings (such as technical acts performed during the intervention).

There is definitely space for more research in this topic and we are looking forward to continuing our research.

#23727 : Assessment of diagnostic and therapeutic management in the face of a suspected urinary tract infection in the emergency department.

Authors:

youssef Hassen (1), mohamed amine msolli (1), kais zaidi (1), Hassen Mohamed Khalil (1), soumaya saad (1), khaoula Bel Haj Ali (1), wahid bouida (1), hamdi boubaker (1), Semir Nouira (1)

1. emergency department, Fattouma Bourguiba University hospital, Monastir, Tunisia

Keywords: tract infection, diagnosis

Abstract :

Assessment of diagnostic and therapeutic management in the face of a suspected urinary tract infection in the emergency department.

Introduction: Urinary tract infections (UTIs) are a common reason for emergency department visits. Often the doctor supplements with complementary examinations essentially the urine cytobacteriological test (urinalysis), and empirically treats a suspicion of UTI. This conduct is sometimes ill-justified and abusive.

Aim: To assess our behavior towards patients presenting to the emergency department for suspected UTI and to study the microbiological profile of our patients.

Methods: Retrospective study, including patients aged over 14 years consulting Monastir emergency department during 2019 and presenting signs suggesting UTI. The demographic, clinical and bacteriological data of each patient were collected.

Results: During 2019, 2257 urinalyses were requested by the emergency department. Our patients had an average age of 45 ± 19 years, predominantly female (60%). 16% were diabetics, 7% had a history of urinary lithiasis and 8% a history of UTI. The symptoms leading our physicians to request an urinalysis are summarized in the table 1, the signs objectified to the clinical examination are presented by table 2 and the results of the urinalysis are detailed in table 3.

Symptoms**Frequency**

Fever

16%
 Burning urination
 45.5%
 Lumbar pain
 44%
 pollakiuria
 9%
 dysuria
 11%

Table 1 : Main symptoms in our population

:

Symptoms	Frequency
Fever	21%
Lumbar sensibility	28%
positive Giardano	20%

Table 2: The main clinical symptoms in our population

Urinalysis results

Urinalysis results	Frequency
Positive	16.5%
Negative	40.5%
Contaminated	43%

Table 3: Urinalysis results in our population

The most isolated germ is Escherichia Coli (E.Coli) (70% of cases). The practice was to prescribe antibiotic therapy in 44% of patients and analgesic treatment in 27% of patients who had a urinalysis. The most prescribed antibiotic was ciprofloxacin. The bacteriological study has shown that E. coli the most isolated germ is resistant to this molecule in 20.7% of cases.

Conclusion: The results of this study brings us to the need to review our diagnostic and therapeutic management in the face of suspected UTI.

Trial Registration / Funding Information (only) :

none

#23729 : Evaluation of the CALL Score for the COVID-19 disease on the hospitalized patients of an italian “red zone” emergency medicine ward

Authors:

Gianfilippo Gangitano (1), Michela Nardacci (2), Mariangela Portaluri (2), Giuseppe D'Antuono (2), Pierpaolo De Ciantis (2), Marta Venturi (2), Lorena Bertozzi (2), Tiziana Perin (1)

1. U.O. Pronto Soccorso -Medicina d'Urgenza, AUSL Romagna, Ospedale Infermi, Rimini, Italy

2. U.O. Pronto Soccorso -Medicina d'Urgenza, AUSL Romagna, Ospedale Infermi, RIMINI, Italy

Keywords: COVID-19, CALL, EMERGENCY MEDICINE, PREDICTIVE VALUE, OXYGEN THERAPY

Abstract :

BACKGROUND: In Northern Italy the rapid transmission of COVID-19 pandemic has caused an enormous public health emergency, which overwhelmed the health services and caused severe lack of availability in ICU beds. The province of Rimini, officially declared “red zone”, is one of the areas more severely affected by the COVID-19 outbreak.

The main aim of the study is to analyze the positive predictive value at baseline of the novel CALL Score on consecutive COVID patients we treated on our Emergency Medicine Ward and Intermediate Care Unit, between Feb 22th to Apr 30th 2020.

METHODS: In this observational retrospective study we summarized the epidemiology and clinical characteristics of COVID-19 patients who have been admitted into our emergency medicine ward. We recorded on our database 74 patients who attended for various symptoms, enrolled as a consecutive patients sample which fulfilled the following traits: positive SARS-CoV2 result of naso/oropharyngeal swab; negative SARS-CoV2 result of naso/oropharyngeal swab but clinical or X-ray/HRCT scan findings.

The outcome variable was defined as validation of CALL (Comorbidity, Age, Lymphopenia, LDH) predictive score through comparison of the results at emergency department admission and the course of the disease on the whole hospitalization: discharge or transfer to an ordinary COVID-ward, admission to ICU, to palliative care or death. Moreover, we evaluated patients during the hospitalization by monitoring primary vital signs, laboratory findings, ABG test at baseline, 12 hours, 3-7-10-14-21 days.

RESULTS: We enrolled 74 pts (66% male, 35% female), average age 70.9 ys (± 14). 43% presented a BMI > 25.

Average p/F ratio at admission was 226: 4 patients received oxygen therapy with nasal cannula, 32 with Venturi Mask, 14 with Reservoir Mask, 4 with HFNC, 20 patients underwent on an Helmet CPAP.

The mean inpatient time on our ward was 5 days (± 6.1): 60.8% were discharged, 17.6% died,

14.9% were admitted to ICU, 5.4% received palliative care.

At baseline: 1) 10.8% patients received a CALL score 4–6 (low mortality risk), 87.5% were discharged/transferred – 12.5% admitted to ICU – no one died; 2) 28.4% patients received a CALL score 7–9 (intermediate mortality risk), 61.9% were discharged/transferred – 19% died – 14.3% admitted to ICU; 3) 60.8% patients received a CALL score 10–13 (high mortality risk), 55.6% were discharged/transferred – 20% died – 15.6% admitted to ICU – 8.9% received palliative care.

CONCLUSIONS: CALL score has a good positive predictive value for patients with low symptoms, few comorbidities and quite normal laboratory findings. Regarding patients with severe symptoms and several comorbidities, this score does not ensure a reliable estimate of the evolution of the disease, underestimating the severity of the acute respiratory failure. Hence, the confidence of this test needs to be strengthened by a test capable of evaluating respiratory function.

#23730 : Minor head injury in the elderly: pertinence of head computed tomography in the emergency department**Authors:**

Fatma Mejri (1), HANA HEDHLI (2), Abdelaziz Taher (1), Amel Maaref (3), Brahim Youssef (1), Montassar Bhouri (1), Aymen Zoubli (4), Rym Hamed (5)

1. Emergency department , Charles Nicolle 's hospital, Tunis, Tunisia
2. emergency department, EPS Charles Nicolle, Tunis, Tunisia
3. service des urgences, Hopital charles Nicolle tunis, tunisie, Tunis, Tunisia
4. emergency departement Cahrles Nicolle, Charles Nicolle, Tunis, Tunisia
5. , Charles Nicolle hospital, Tunis, Tunisia

Keywords: Mid traumatic brain injury, emergency, computed tomography

Abstract :**Introduction:**

In this century, we have reached a progress in life expectancy, but it comes with an increase of elderly patients with several diseases, including head trauma. Despite the high prevalence of elderly, a few trials were interested in assessing the relevance of acts and congestion of emergencies departments (ED).

Goal: To study the epidemiological features of minor head injury and the pertinence of head computed tomography (CT) in elderly admitted in the ED.

Methods:

A retrospective observational study was conducted over four years. Inclusion of patients (age ≥ 65) admitted to ED for minor head trauma undergoing Computed tomography. The diagnosis of minor head injury was based on Glasgow Coma Scale (CGS). The demographics, comorbidities, clinical and biological data and in-hospital procedures were collected.

Results:

of 467 minor head trauma patients, 67 are aged over 65 years. Mean age 76 ± 8 years with sex-ratio of 1.48. Twenty-eight patients (42%) had a positive head CT: three (11 %) patients had an urgent neurosurgical indication and 25 patients (89 %) were send home.

The comparative study of positive head CT group versus negative head CT group N (%) (p value) has found : male gender 18 (64) vs 21(54) (NS), antiplatelet therapy 7(25) vs 3 (8) (0.04) , anticoagulant therapy 4 (14) vs 5(13) (NS), initial loss of consciousness 22(79) vs 6(15) (0.04), sub clavicular trauma 9(32) vs 14 (36) (NS).

Conclusion:

It seems that the antiplatelet therapy and initial loss of consciousness are frequently associated with positive head CT in elderly patients.

#23731 : Anti-NMDA receptor encephalitis in the emergency department: Meningitis as a presenting feature**Authors:**

fatma mejri (1), montassar bhouri (1), safia Othmani (2), Rym Ben Kaddour (2), houyem zouari (1), emna Kallel (1), Maaref Amel (3), Hamed Rym (3)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia

Keywords: emergency, neurology, diagnosis, prognosis,

Abstract :

Anti-N-methyl D-aspartate (NMDA) receptor (anti-NMDAR) encephalitis is among one of the most common autoimmune encephalitides which often occurs as a paraneoplastic phenomenon. A typical presentation is in a young female individual with a viral-like prodrome followed by the development of severe psychiatric symptoms, memory loss, seizures, reduced consciousness and hallucination. Meningitis is a very rare presenting feature of anti-NMDA receptor encephalitis with our literature search only revealing two other reported case.

Case presentation:

A 26-year-old female without significant history presented to the emergency department complaining of gradual onset pressure-like headache, vomiting and fever. Her family also noted that she had been suffering from unusual behavior. There was no history of substance use or recent travel. In the emergency the patient was notably agitated and confused. On examination, she was febrile at 38 C° with unremarkable systemic and neurological examination. Initial laboratory studies include a metabolic panel and a blood count were unremarkable. A computed brain tomography was reported as normal. Cerebrospinal fluid (CSF) analysis revealed an elevated white cell (WC) count of 80 WC/mm³ with 70 % of lymphocytosis. Following the lumbar puncture, she received an intravenous acyclovir 15 mg/kg three times a day. Her headache and memory loss didn't improve, and she developed a generalized tonic-clonic seizure. she went for further investigations. Her magnetic resonance imaging brain showed a cortico-subcortical signal temporal abnormalities T2 with contrast enhancement. CSF repeatedly demonstrated marked lymphocytosis with elevated protein levels, and a normal CSF/serum glucose ratio. Investigations for several infections were negative. The MRI retained a typical aspect of anti-NMDA receptor encephalitis. She was transferred to the neurological department for further investigations and specific treatment.

Conclusion:

Anti-NMDAR encephalitis is a serious, potentially fatal condition. Meningitis is a rare presentation but should be considered in young female patient with negative extensive investigations meningitis.

#23732 : Rare Cases of Acute Pancreatitis at the Emergency Department (ED) – Two Case-Reports

Authors:

Jolanda Oberle (1), Beat Lehmann (2), Aristomenis Exadaktylos (2), Karsten Klingberg (2)

1. , , Bern, Switzerland

2. , University Hospital Bern, Bern, Switzerland

Keywords: acute pancreatitis, pregnancy, endocrine insufficiency, hypertriglyceridaemia

Abstract :

Submission title: Rare Cases of Acute Pancreatitis at the Emergency Department (ED) – Two Case-Reports

Consent: written and oral consent is available for both patients

Brief clinical history:

- Case 1: A 38-week pregnant women with gestational diabetes presented to the maternity ward with upper abdominal pain and delivered a healthy child shortly after presentation. During delivery, doctors noticed a hyperlipidaemic appearance of the blood and the abdominal pain continued after delivery. Laboratory work-up showed an elevated level of lipase. Immediate plasmapheresis was warranted.

- Case 2: A 60-year-old man was brought to the ED because of seizures. Glucose level was not quantifiable by the EMTs due to extremely high levels. CT of the head showed no structural lesions of the brain. Laboratory results suggested an acute pancreatitis with lipase 3538 U/L (13-60U/L), sodium 107 mmol/L (136-145 mmol/L) and glucose 88.9 mmol/L (4.56-6.38mmo/L). In this case, acute pancreatitis in a patient with known diabetes mellitus type 2 resulted in endocrine insufficiency of the pancreas with severe hyperglycaemia which lead to osmotic diuresis and the loss of sodium. The depleted sodium level of 107 mmol/l caused seizures.

Misleading elements:

- Case 1: Abdominal pain in a pregnant patient was interpreted as labour pains..

- Case 2: No patient history was available at the time of admission. Due to seizures, an intracerebral pathology was suspected.

Helpful details: In both cases diabetes mellitus was already known from past medical history, which lead the treating physicians to consider the pancreas and its functions for differential diagnosis. In case 2, abdominal ultrasound was performed due to acute renal insufficiency which showed free intraabdominal fluid. .

Differential and actual diagnosis

- Case 1: The final diagnosis was acute pancreatitis due to hypertriglyceridemia. If gestational diabetes, genetic preposition or the delivery of the child lead to high levels of triglycerides remains unknown.

- Case 2: The final diagnosis was most likely septic shock in acute pancreatitis which lead to endocrine insufficiency of the pancreas. The exact aetiology of acute pancreatitis remains unknown as no gallstones or history of alcohol abuse were found. As possible aetiology drug induced pancreatitis caused by Sitagliptin or Pravastatin was discussed.

What is the educational and/or clinical relevance of the case(s)?

- Acute pancreatitis is a rare cause for abdominal pain during pregnancy and early postpartum. Gestational diabetes and elevated triglyceride levels in the third trimester are risk factors.

- In patients with dyselectrolytaemia (e.g. elevated glucose-levels), pancreatitis should be considered as underlying cause or differential diagnosis.

- Pancreatitis is a likely diagnosis in severely ill patients

Attachment: Eposter_Template_2020_EUSEM_JO.ppt

#23733 : Baseline characteristics of a population with COVID-19-like illness admitted to the Emergency Department of a Florentine Hospital, Italy.

Authors:

Elisa Paolucci (1), Simone Bianchi (2), Caterina Savinelli (3), Lorenzo Pelagatti (4), Erica Sibona (4), Natalia Fersini (4), Michele Buggea (4), Michele Lanigra (2)

1. Emergency Department, Careggi University Hospital, FIRENZE, Italy
2. Emergenct Department, Santa Maria Nuova Hospital, AUSL Toscana Centro, Italy, Firenze, Italy
3. Emergenct Department, Santa Maria Nuova Hospital, FIRENZE, Italy
4. Emergency Department, Careggi University Hospital, Firenze, Italy

Keywords: COVID-19

Abstract :

Background: On January 30, 2020, the World Health Organization (WHO) designated an outbreak of a novel coronavirus not seen before in humans to be a public health emergency of international concern, this was followed by the declaration of a pandemic on march 11, 2020. Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) is the virus responsible for the Coronavirus Disease 2019 (COVID-19). This causes a crowding in the Emergency Department (ED) due to a large volume of patients affected by Influenza Like Illness (ILI).

Objective: Aim of the study was to characterize the population of patients presenting with symptoms concerning for COVID 19 to ED during the SARS-CoV-2 outbreak period.

Methods: We enrolled consecutive patients with ILI admitted to the Santa Maria Nuova ED in Florence from march 12th to April 12th 2020. ILI was defined as the presence of at least one symptom among fever, cough or dyspnea. These patients were identified at a pre-triage area outside the hospital and managed separately from other patients according to infection control local protocols. All patients were tested for SARS-CoV-2 with nasal-pharyngeal swabs. According to the WHO guidance, COVID-19 diagnosis was defined as a positive result of real-time reverse transcriptase–polymerase chain reaction assay for SARS-Cov-2. For each patient we collected physical end anamnestic features, laboratory and diagnostic test results and outcome.

Results: We enrolled 269 patients with COVID-like symptomps, mean age 66 ± 20 years, 50,6% male gender. SARS-CoV-2 was found in 136 (50,6%) patients. Fifty (18,6%) more patients that never showed positive to naso-pharingeal swab are still under investigation. COVID-19 patients were male in 53,3%, mean age was 70 ± 16 years, history of hypertension was present in 54 (40,9%), cronic lung disease in 19 (14,4%), diabetes in 19 (14,4%), obesity in 4 (3,0%), neoplastic disease in 12 (8,8%). COVID-19 patients were less frequently smoke addicted (4,2% COVID vs 13,2% NO COVID, $p=0,005$) and showed low lymphocytes count (37,1% COVID vs 39,0% NO-COVID, $p=0,09$) elevated aspartate aminotransferase (AST, 21,6% COVID vs 5,7% NO-COVID, $p=0,002$) and lactate deidrogenase level (LDH, 38,2% COVID vs 14,0% NO-COVID, $p<0,001$). Procalcitonin (PCT) levels were similar in both groups (elevated PCT 16% in COVID vs 6,9% in NO-COVID, $p=NS$). At ED presentation fever was present in 190 (70,6%), cough in 86 (32,0%), short of breath in 62 (23%), diarrhea in 2 (0,7%), haemoptysis in 3 (1,1%). COVID-19 patients were more frequently hypoxiemic (15,5% COVID vs 4,9% NO-COVID, $p=0,021$). Among COVID-19 patients 67 (31,6%) needed oxygen supply, 24 (11,3%) required non-invasive ventilation and 12 (5,9%) needed Intensive Care Unit (ICU) admission. In-hospital mortality was 7,4% in COVID patients vs 4,7% in NO-COVID. Seven (3,4%) patients died at 14-days follow-up after hospital dismissal. Diabetic patients showed less severe disease (6,1% ICU admission or death vs 13,6% in non diabetic).

Conclusions: We described the clinical features of a first-level Tuscan ED population with ILI during a SARS-CoV-2 outbreak period. Low lymphocytes count, high AST and LDH level were significantly associated with SARS-CoV-2 infection. Diabetic patients were less likely to need ICU admission.

#23734 : Ignoring the prompts - Auditing X-Ray Cervical Spine Ordering from the Emergency Dept**Authors:**

Bernard Lillis (1), Ciara Murphy (2), Eziefia Obuseh (3)

1. Emergency Medicine Trainee, Tallaght University Hospital, Tallaght, Ireland
2. Emergency Medicine Trainee, Tallaght University Hospital, Dublin, Ireland
3. Emergency Medicine Consultant, Tallaght University Hospital, Dublin, Ireland

Keywords: radiology, overdiagnosis, trauma

Abstract :

Introduction

C-Spine imaging in trauma is a controversial topic with both choice of imaging modality and appropriate ordering a source of disagreement in the Emergency Dept. In Tallaght University Hospital, a tertiary academic hospital in the suburbs of Dublin, the computer ordering of XR C-Spines on the imaging system requires the ordering clinician to answer a series of toggle yes/no questions, to assess for the purposes of audit, the correct application of the Canadian C-Spine rules. This study aims to assess whether these prompts are answered accurately, or if click fatigue results in the questions being ignored and clicked through absentmindedly. As a secondary outcome, it seeks to determine the proportion of patients that progress to CT imaging subsequently.

Methods

This is a retrospective cohort study of all the X-Ray Cervical Spines ordered from the Emergency Dept in Tallaght University Hospital during a period between 2019 and 2020. The ordering system is searched to find all patients who had an X-Ray of their Cervical Spine during this period, and within each order, their responses to the mandatory questions are documented and compared to the clinical presentation as documented in patient's clinical notes. The study will also search the ordering system to determine which patients went on to progress to advanced imaging.

Results

Preliminary results suggest a poor compliance rate (<35%) with the answering of the prompt questions in a fashion consistent with their documented presentation and exam in the clinical notes. 45% of all X-Ray Cervical Spines went on to have subsequent advanced imaging.

Discussion + Conclusions

Given the limited value of the prompt questions in their consistency with clinical presentation, there would appear to be significant 'click fatigue' in the emergency dept suggesting that such auditing of scan ordering has uncertain research potential, and may provide unclear results. X-Ray Cervical Spine for trauma is increasingly looking a vestigial imaging choice, given that the majority of those for whom it was appropriate went on to undergo advanced imaging subsequently, while many of those who did not, could likely have been cleared by an effective application of NEXUS or Canadian C-Spine Rules.

#23735 : Lung ultrasound and Coronavirus Disease-19 in the Emergency Department

Authors:

Lorenzo Pelagatti (1), Elisa Paolucci (2), Simone Bianchi (3), Caterina Savinelli (4), Erica Sibona (1), Natalia Fersini (1), Michele Buggea (1), Michele Lanigra (5)

1. Emergency Department, Careggi University Hospital, Firenze, Italy
2. Emergency Department, Careggi University Hospital, FIRENZE, Italy
3. Santa Maria Nuova Hospital, Firenze, AUSL Toscana Centro, Italy, Firenze, Italy
4. Emergency Department, Santa Maria Nuova Hospital, FIRENZE, Italy
5. Emergency Department, Santa Maria Nuova Hospital, AUSL Toscana Centro, Italy, Firenze, Italy

Keywords: COVID-19 POCUS Lung Ultrasound

Abstract :

Background: On January 30, 2020, the World Health Organization designated an outbreak of a Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2). In most symptomatic patients, Coronavirus Disease 2019 (COVID-19) comprehend interstitial pneumonia that can be rapidly and early detected by bedside point-of-care ultrasound (POCUS).

Objective: Aim of the study was to check the performance of bedside lung ultrasound in the ED diagnosis of COVID-19 during the SARS-CoV-2 outbreak period.

Methods: We enrolled consecutive patients with ILI admitted to the Santa Maria Nuova ED in Florence from march 12th to April 12th 2020. ILI was defined as the presence of at least one symptom among fever, cough or dyspnea. These patients were identified at a pre-triage area outside the hospital and managed separately from other patients according to infection control local protocols. All patients were tested for SARS-CoV-2 with nasal-pharyngeal swabs. According to the WHO guidance, COVID-19 diagnosis was defined as a positive result of real-time reverse transcriptase–polymerase chain reaction assay for SARS-Cov-2. For each patient we collected physical and anamnestic features, laboratory and diagnostic test results and outcome. For each patient we performed a point-of-care (POCUS) lung ultrasound. Based on the lung POCUS findings, we identified 5 echographic patterns: A pattern (A-lines prevalence, normal B lines), cardiogenic B pattern (uniform, cranio-caudal progressing B pattern, possibly with pleural effusion), typical flogistic B or C pattern (single basal consolidation or focal B pattern), atypical flogistic pattern (apical or bilateral single consolidation and/or less than 3 focal B lines), C pattern (multiple consolidations), ARDS pattern (multifocal B pattern and multiple consolidations). C and ARDS pattern and according to sonographer opinion some atypical flogistic pattern (integrated point-of-care cardiac and inferior vena cava evaluation) were considered as possible COVID-19. We recorded the final diagnosis according to SARS-CoV-2 infection at hospital dismissal or at 14-days follow-up.

Results: We enrolled 269 patients with COVID-like symptoms, mean age 66 ± 20 years, 50,6% male gender. SARS-CoV-2 was found in 136 (50,6%) patients. Fifty (18,6%) more patients that never showed positive to naso-pharyngeal swab are still under investigation. COVID-19 patients were male in 53,3%, mean age was 70 ± 16 years. Among COVID-19 patients 67 (31,6%) needed oxygen supply, 24 (11,3%) required non-invasive ventilation and 12 (5,9%) needed Intensive Care Unit (ICU) admission. In-hospital mortality was 7,4% in COVID patients vs 4,7% in NO-COVID. Seven (3,4%) patients died at 14-days follow-up after hospital dismissal. Most COVID-19 patients (63%, n=78) showed a C or ARDS pattern and 21 (10,3%) atypical flogistic pattern, while 14 (6,9%) showed a normal A pattern. POCUS showed 87% sensibility and 80% positive predictive value. Among 7 COVID-19 patients with negative nasal-pharyngeal swab in ED, POCUS showed a COVID-suggestive pattern in 6 (86%).

Conclusions: In our experience POCUS is an useful tool for early COVID-19 diagnosis in ED. Lung

ultrasound can help identifying potential false-negative SARS-CoV-2 testing and avoiding inappropriate patients managing, especially to prevent in-hospital infection spread

#23736 : Severe metabolic alkalosis complicating a peptic ulcer in the emergency department**Authors:**

fatma mejri (1), emna Kallel (1), Hana Hedhli (2), Badr Ferjeoui (3), Rim Dhauedi (4), dhekra hosni (1), Maaref Amel (2), Hamed Rym (2)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
3. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
4. Emergency Department , Charles Nicolle Hospital, tunis, Tunisia

Keywords: emergency, gastroenterology, metabolic disorder, diagnosis, prognosis, treatment

Abstract :**Introduction:**

Peptic ulcers are defects in the gastric or duodenal mucosa that extend through the muscularis mucosae. The incidence of complicated ulcer increases with age. Severe metabolic alkalosis is a very rare complication of peptic ulcer with our literature search only revealing one case reported.

Observation:

A 45-year-old man with a history of peptic ulcer one year earlier presented to the emergency department complaining of 3 days vomiting and constipation. He was taking a proton pump inhibitor 40 mg twice a day. There was no history of chronic obstructive pulmonary disease. On examination, he had a dry skin with unremarkable systemic examination. Initial laboratory studies showed: an acute kidney injury (blood urea was 15,7 mmol/L, serum creatinine 219 μ mol/L) serum sodium was 131 mmol/L ,hypokalemia 2 mmol/L and severe hypochloremia 52 mmol/L. blood gas result:PH 7,59 , paco 69 mmol/L , pao 56 mmol/L, hco $>$ 60 mmol/L ; confirmed a severe metabolic alkalosis. The electrocardiogram had no electrical signs of Hypokalemia. His oeso-gastro-duodenal fibroscopy showed: severe esophagitis, bulbite with large inflammatory fold reducing light without stenosis with fibrous component. The patient was admitted to the emergency department where he received a fluid resuscitation and potassium supplementation. He improved within the 4 next days.

Conclusion:

Extreme metabolic alkalemia has been associated with a high risk of mortality of up to 45% with a pH of 7.55 and 80% when pH is greater than 7.65. Appropriate intervention and correction are warranted when arterial blood pH exceeds 7.55.

#23737 : Occupational Burnout in Emergency Department personnel

Authors:

Rihab Dimassi (1), Adel Sekma (2), camillia jeddi (3), Mohamed Amine Msolli (1), hassen khalil (4), Kaouther Beltaief (5), Semir Nouira (1), Hamdi Boubaker (1)

1. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, Monastir , Tunisia
2. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, Monastir, Tunisia
3. emergency department of manastir, , fattouma bourguiba university hospital, Monastir, Tunisia
4. emergency departement, emergency departement monastir, monastir, Tunisia
5. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, monastir, Tunisia

Keywords: Burnout; Emergency Department

Abstract :

Occupational Burnout syndrome is a growing complex phenomenon associated with stressful work environment. It is a syndrome that preferentially affects professions with highly affective interpersonal implication such as healthcare workers.

The most adapted definition of burnout is one written by Maslach, according to whom occupational burnout is characterized by three dimensions :
1) Emotional exhaustion (depletion of emotional resources when in contact with recipients) 2) Depersonalization (also known as cynicism ; negatif emotions and cynical attitude towards service or healthcare recipients) 3) Reduced personal accomplishment (a feeling of personal and mostly professional inadequacy and a reduced productivity).

Aim : The aim of our study was to detect the prevalence of Burnout Syndrome in a population of medical and nursing staff in the emergency department and specify its causes as well as perceived repercussions.

Methods : We conducted a cross sectional study within hospital staff ; They answered a questionnaire regarding work environment, perceived causes of occupational burnout, its possible consequence and a burnout measure questionnaire (Maslach Burnout Inventory).

Results : 53 hospital staff were included. 25 nursing personnel and 28 medical personnel. 61% of the population were female. 36% aged between 20 and 29 years old. 42% aged between 30 and 39 years old. 45% have length of service less than 2 years and 28 %have more than 10 years length of Service. More than two thirds of our population (77%) were suffering from burnout, of which 32% had a high level of emotional exhaustion, 1.9% had a high level of depersonalization and 67% had low professional accomplishment

Conclusion : Occupational burnout in the emergency department is a problem that must be evaluated and properly managed in time.

#23738 : Aortic stenosis in disguise of an asthma**Authors:**

Nisrin Selman (1), Imen Mekki (2), Saoussen Khiari (1), Hamdi Doghri (1), Badra Bahri (1), Imen Zaghdoudi (1), Ines Sedghiani (1), Nebiha Borsali Felfoul (1)

1. Emergency Department, HabibThameur Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia

Keywords: aorta, stenosis, diagnosis

Abstract :**Introduction:**

Aortic stenosis is a common pathology among young adults. The dominant congenital malformation is bicuspidism. The suggestive clinical triad is chest pain, dyspnea and syncope. Echocardiography is the key diagnostic tool.

Observation:

Mr. MA, 46 years old, with a history of asthma, presented to the emergency department for a dyspnea evolving for two days associated with an episode of hemoptysis and hematuria. The initial examination showed a respiratory frequency at 30 cpm , an SpO₂ at 94%, his blood pressure was 110/60 mmHg , his heart rate at 100 bpm . At the heart auscultation there was a systolic murmur radiating in the left para sternal area. There was no jugular veins distension and no hepatojugular reflux. The ECG showed a regular sinus rhythm at 105 bpm, an axis in DI, a biphasic P wave in V1 and V2 and a Socolow index at 31. The Glasgow score was 15. The patient presented jaundice. The abdomen was flexible, painless, depressed with a liver span measured at 12 cm. The urine test strip showed the presence of hemoglobin and the absence of both protein and leukocytes. The laboratory tests have shown severe hepatic cytolysis (AST/ALT=2924/2517), cholestasis and liver failure (PT=28%). The chest X-ray showed a cardiomegaly. The abdominal ultrasonography was normal. The echocardiography has shown dilated cardiomyopathy (LVEF=38%), Pulmonary arterial hypertension (PAH), SPAP=52mmHg. The patient developed a hepatic encephalopathy that led to a coma then death.

Conclusion:

Aortic stenosis is a pathology which must be taken into consideration in the face of progressive and recent dyspnea in young adults. Treatment includes percutaneous valvuloplasty, valve replacement, and more recently non-invasive treatment with therapeutic ultrasound.

#23739 : Place of virtual simulation in the training of interns in emergencies

Authors:

camilia jeddi (1), khaoula Bel Haj Ali (1), adel walha (1), kaouther beltaief (1), maha touati (1), adel sekma (1), hamdi boubaker (1), Semir Nouira (1)

1. emergency department, Fattouma Bourguiba University hospital, Monastir, Tunisia

Keywords: simulation, virtual , training

Abstract :

INTRODUCTION: The learning methods in continuing medical education are essentially based on a transmissive model. The innovation of medical education becomes an imminent need in a world invaded by e-learning. Serious video games have recently established themselves as a reliable tool for training and skills development thanks to their educational aspect in several areas.

ONJECTIVE: Study the relevance of serious games as an educational support for the learning of medical students. **METHODS:** We conducted a prospective observational cross-sectional study. The residents of the emergency department were divided into 2 groups: Group 1 (G1) having benefited from an hour-long theoretical education and Group 2 (G2) having benefited from a serious games session followed by a one hour long debriefing. The students of the 2 groups were evaluated first by a theoretical evaluation (pre-test / post-test questionnaire) and by a passage by high-fidelity simulator in a second phase. The judgment criteria were improvement on the post test and the level of performance on the simulator. **RESULTS:** Twenty-eight interns were included, including 13 in G1 and 15 in G2. The average of the pretest scores were 8.88 / 20 and 7.37 / 20 in G1 and G2, respectively. The improvement on the post test was 9.78 points in G1 and 8.7 points in G2 ($p = 0.321$). On the simulator, the performances of the two groups are summarized in the table below.

G1
G2
p
Expertise (/10)
8,16
8,66
0,276
Expertise (/10)

7,06

5,20

0,033

CONCLUSION:Serious games represent a method as effective as the classic methods of theoretical courses. These results have yet to be confirmed in a larger student population.

#23740 : Cerebral toxoplasmosis displayed as behavioral disorders**Authors:**

Nisrin Selman (1), Imen Mekki (2), Saoussen Khiari (1), Radhia Abidi (1), Nouha Bouker (1), Badra Bahri (1), Youssef Zied El Hechmi (1), Nebiha Borsali Felfoul (1)

1. Emergency Department, HabibThameur Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia

Keywords: toxoplasmosis, cerebral, infection, emergency

Abstract :**Introduction**

Toxoplasma gondii infection is widespread and is reported to affect up to a third of the world's population. Its neurotropic nature and other characteristics that make it a potential causative agent for mental and behavioral disorders. The chronic toxoplasmosis, primarily regarded as benign and asymptomatic, might be responsible, in light of current scientific evidence, for a vast array of neuropsychiatric symptoms including schizophrenia, bipolar disorder and Obsessive Compulsive Disorder.

Observation

A 34 year old man with no previous known medical conditions presented to the emergency department with worsening headaches and bizarre behavior reported by his family. The clinical examination revealed that the patient had a normal temperature, his blood pressure was 110/78 mmHg, his respiratory rate was 18 and with a Glasgow Score of 11 (E=4,V=2,M=5). His pupils were in intermediate position and symmetrical in size and he didn't have a meningeal syndrome. Behavioral abnormalities were observed as well: the patient would laugh on his own and he would stare to the walls. He also wanted to urinate in the examination room. A cerebral CT-scan was performed and revealed multiple grossly rounded and contiguous lesions in the frontal lobe. These lesions are spontaneously hypodense with an annular contrast enhancement and surrounded by a significant perilesional edema achieving the appearance of a target roundel. The whole is responsible for a mass effect with deviation of the midline to the right estimated at 13mm, for a collapse of the left lateral ventricle and for an Uncal herniation.

The patient was then sent to a neurosurgical department.

Conclusion:

A better knowledge of infection mechanisms of *T. gondii* and its influence on neurobiochemical and neuropathological pathways may constitute a major breakthrough in understanding the aetiology and pathophysiological mechanisms of psychiatric disorders, as well as their treatment and prevention.

#23742 : Emphysematous cystitis discovered following a VKA overdose in a non-diabetic woman

Authors:

Radhia Abidi (1), Imen Mekki (2), Nouha Bouker (1), Saoussen Khiari (1), Badra Bahri (1), Nisrin Selman (1), Ines Sedghiani (1), Nebiha Borsali Felfoul (1)

1. Emergency Department, HabibThameur Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia

Keywords: cystitis, emphysema, emergency

Abstract :**Introduction:**

Emphysematous cystitis is a rare form of lower urinary tract infection. It represents a complication that has an infectious origin due to an anaerobic microbial overgrowth. It is a serious disease that is common in diabetic women. The prognosis is severe and it depends essentially on early diagnosis and proper medical care.

Observation:

Mrs. LM, 73 years old, with a history of atrial fibrillation (AF) on acenocoumarol (Sintrom®), heart failure on furosemide, hypertension on ACE inhibitors and rheumatic pathology on corticosteroids and colchicine. She consulted the ED for abdominal pain and vomiting. The examination revealed a pale patient. She was eupneic, her pulsed oxygen saturation was at 98%. Cardiopulmonary auscultation was free, BP was 85/45 mmHg in both arms, her HR was at 130 bpm with cold limbs. Her GCS was at 15 and she was afebrile. Her whole abdomen was tender, and the rectal examination showed normocoloured stool. ECG showed AF at 120 bpm with negative T waves laterally. Biology showed hyperlactatemia at 10 mmol/L, metabolic acidosis, normochromic normocytic anemia, biological inflammatory syndrome, hepatic cytolysis and cholestasis with INR at 8. The patient initially responded to vascular filling. Intra-abdominal hemorrhage was suspected. An abdominal CT scan showed aspects of emphysematous cystitis, but with no hematoma. The patient was placed on triple antibiotic therapy and vitamin K. No surgical indication was identified. The initial evolution was positive after three days with clinical and biological improvement (Lactate clearance decreased). However, the patient died on the eleventh day of her hospitalization following the onset of a fast AF. The patient could not endure it, and she could not recover despite electric shock and resuscitation.

Conclusion:

Emphysematous cystitis remains a serious and life-threatening disease both in the short and medium terms. Elderly patients may present atypical patterns that can make the diagnosis process difficult. Thus, the role of the emergency physician is crucial in detecting initial severity for the better patient guidance, managing vital distress and recommending the necessary complementary examinations.

#23743 : Sepsis in the setting of autonomic dysreflexia

Authors:

Ciara Murphy (1), Victoria Meighan (2)

1. Emergency Department, Tallaght University Hospital, Dublin 8, Ireland
2. Emergency Medicine Consultant , Tallaght University Hospital , Dublin , Ireland

Keywords: sepsis, autonomic dysreflexia

Abstract :**Background:**

Autonomic dysreflexia is a condition that occurs post injury to the spinal cord at level of T6 or higher. Dysregulation of the autonomic nervous system leads to an un co-ordinated and atypical autonomic response.

This can lead to a hypertensive crisis when there is a noxious stimulus below the level of the spinal cord injury. In the vast majority of cases this is related to a UTI / distended bladder / blocked catheter.

Case History:

This case is of a 27 year old man presenting to the emergency department in a tertiary academic Dublin hospital. He complained of 12 hour history of lethargy, subjective fevers (but none documented in the department) and headaches. He also had 2 episodes of vomiting. He had no respiratory symptoms and no signs of meningism.

He had a history of a gunshot wound to his T1 spinal cord 7 years ago, which left him with secondary paralysis and autonomic dysreflexia. He had a suprapubic catheter in situ, which was noted to be draining dark/cloudy urine.

Examination:

At triage his vitals were as follows: HR 45 BP 178/117 temperature 35.1 respiratory rate 18 oxygen saturations 98%

He was persistently hypertensive in the department, peaking at 185/120. He was also bradycardic at an average of 48bpm. Lactate was 3.5.

He was presumptively diagnosed as a urosepsis, and treated with appropriate antibiotics. Interestingly he did not present as we would typically expect a sepsis (hypotensive and tachycardic). This is due to his autonomic dysreflexia causing an atypical autonomic response.

His WCC was 17 and CRP was 6. Urine was positive for nitrates and sent to the lab for microscopy. His chest x-ray was unremarkable.

Clinical relevance:

Globally there has been a lot of attention drawn to the presentation and treatment of sepsis in the last few years. Clinicians of all stages and backgrounds are aware of the “sepsis 6” – which include hypotension and tachycardia as presenting features in a septic patient.

Patients with spinal cord injuries and autonomic dysreflexia have a completely opposite presentation of sepsis. It is important for us to be aware of this, so that sepsis can be identified and treated early in all patients, even those presenting atypically.

Attachment: EUSEM.docx

#23744 : Acute renal failure and mortality in septic patients in the emergency department**Authors:**

Amira Bakir (1), HANA HEDHLI (2), Wafa Slaimi (1), Rym Ben kaddour (3), Aymen Zoubli (4), Rym Hamed (5)

1. Emergency department , Charles Nicolle 's hospital, Tunis, Tunisia
2. emergency department, EPS Charles Nicolle, Tunis, Tunisia
3. service des urgences, Charles Nicolle hospital, Tunis, Tunisia
4. emergency departement Cahrles Nicolle, Charles Nicolle, Tunis, Tunisia
5. , Charles Nicolle hospital, Tunis, Tunisia

Keywords: Acute renal failure, mortality, sepsis, emergency department

Abstract :

Background: Several data about the prevalence of acute renal failure (ARF) among septic patients are lacking. Further, it is not known whether ARF is an independent risk factor for mortality in septic patients or merely an indicator of disease severity.

The goal of this study was to examine whether ARF is a risk factor for mortality in septic patients.

Methods: We conducted a prospective observational trial in emergency department. All patients presented in ED with sepsis defined according the third international sepsis campaign and ARF were enrolled. ARF is defined by a rise in creatinine above twice the upper limit of normal and/or a drop in urine output to < 0.5 ml/kg bodyweight. Patients with chronic dialysis dependent renal failure were excluded from analysis.

Results: One hundred eighteen patients were include. Among them 22 patients (18.6%) had chronic dialysis-dependent RF and 40 patients (41.66%) had ARF. septic Patients had an overall hospital mortality of 27%. Hospital mortality in patients with ARF was 67.3% and without ARF 42.8%. ARF remained a significant risk factor for death [$p < 0.0001$; OR= 0, 77, 95% confidence interval (CI) 0.258-2.327]. Mortality in septic patients was not associated with pre-existing, non-dialysis-dependent chronic kidney disease, whereas in dialysis dependent patients with sepsis mortality increased to 86%.

Discussion: In this representative survey in septic patients, ARF represents a significant risk factor for mortality in these patients.

#23745 : Interest of ultrasound in the patient's bed in the emergency room for the detection of aortic dissection

Authors:

Radhia Abidi (1), Imen Mekki (2), Nouha Bouker (1), Saoussen Khiari (1), Badra Bahri (1), Nisrin Selman (1), Imen Zaghdoudi (1), Nebiha Borsali Felfoul (1)

1. Emergency Department, HabibThameur Hospital, Tunis, Tunisia

2. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia

Keywords: ultrasound, aortic dissection, emergency

Abstract :**Introduction :**

Aortic dissection represents the most serious emergency in terms of aortic pathology. Untreated, its evolution is often fatal. STANFORD Type A dissection, which affects the ascending aorta and may extend to the descending aorta, is an absolute surgical emergency and is fraught with heavy mortality.

Observation :

Mr.AM, aged 43, athletic, non-smoker, with no notable pathological antecedents, has consulted the emergency room for chest pains of brutal installation for 3 hours, irradiating to the back and both upper limbs. The examination showed an afebrile patient (EVA at 8) having required his morphine hydrochloride titration, eupneic, 99% of saturation, free lung auscultation, blood pressure at 113/50 mmHg in the right arm, 98/44 mmHg in the left arm with symmetrical pulses. HR was 98 bpm. Cardiac auscultation revealed a 4/6 aortic insufficiency murmur. His GSG was 15. The rest of the clinical exam was normal. EKG showed an RRS at 95 bpm and a lateral ST subspace shift. Aortic dissection was suspected. Transthoracic Ultrasound at the patient's bedside showed a dilated ascending aorta responsible for severe aortic leakage. The aortic CTscan showed a type A dissection of STANFORD originating at the sinotubic junction extending to the aortic arch, the right brachiocephalic arterial trunk, the left common carotid and ending 2 cm from the origin of the left subclavian. The patient was transferred urgently to cardiovascular surgery.

Conclusion :

STANFORD type A aortic dissection is a diagnostic and therapeutic emergency. Every emergency physician must detect an aortic dissection in time because the evolution can be fatal within a few hours. The role of transthoracic Ultrasound in the emergency department as a diagnostic tool for aortic dissection is important.

#23746 : White phosphorus poisoning in an elderly patient in the emergency room**Authors:**

Badr Ferjeoui (1), Imen Mekki (2), Rim Dhaouedi (3), Rym Ben Kaddour (1), Anissa Chamssi (1), amira bakir (4), dhekra hosni (4), Hamed Rym (2)

1. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
2. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
3. Emergency Department , Charles Nicolle Hospital, tunis, Tunisia
4. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia

Keywords: poisoning, emergency , elderly, diagnosis, prognosis, toxicology

Abstract :

Introduction :

White phosphorus is the most common and commercial form of phosphorus. It presents as a fat soluble and can be absorbed by inhalation , ingestion or skin passage . it is irritating for gastrointestinal tract , nephrotoxic and may cause myocardial damage . The severity of white phosphorus poisoning has resulted in a severe restriction of its use worldwide. Making diagnosis at one emergency setting is difficult because polymorphic and rare presentation and remains a real challenge for the emergency physician.

Observation :

We report a case of Mr AH ,77 years old , hypertensive who presented to the in the emergency ward for generalized pruritus and fever . The initial examination showed restless , polypneic patient with pulse oximetry on air at 95 % , crackling groans on both bases on pulmonary auscultation , no signs of struggle. Arterial Blood pressure at 100/60 in both arms , cardiac frequency was equal to 90 beats per minute without signs of shock , symmetrical pulse , no breath on cardiac auscultation , glasgow score at 15 , no meningeal syndrome , finger blood sugar at 1,2 gr/l , temperature at 38 C , depressable flexible abdomen , generalized skin erythema and urine was clear. Further investigation revealed the use of skin application daily of white phosphorus tow weeks ago for pain joint and muscle . Biology has shown a biological inflammatory syndrome, a hyperlactatemia, 20 times normal cytolysis, mixed cholestasis , high troponin hypersensitive to 7000 ng/l and moderate renal failure without ionic disorders . Electrocardiogram showed a regular sinus rythm without conduction or repolarization disorders . The radio chest showed bilateral interstitial syndrome and transthoracic heart ultrasound showed disorders of overall kinetics with a preserved left ventricular ejection fraction. The abdominal ultrasound was normal . The diagnosis of intoxication by white phosphorus was retained after powder analysis by a specialized laboratory and pharmacovigilance questionnaire. The patient was hospitalized in the emergency ward for 7 days with good clinical and biological evolution, treatment was based on hydratation with isotonic saline, symptomatic treatment of pruritus and daily shower with strict vital signs monitoring and biological kinetic with decrease in sirs manifestations and good evolution.

Conclusion :

Rare cases of white phosphorus poisoning have been reported . However , due to its toxicity,

emergency physician must be aware and be able to trigger the diagnosis confirmation on SIRS criteria associated to the context of phosphorus use.

#23747 : Prognostic stratification of patients with hypoxemic respiratory failure treated with Non-invasive ventilation**Authors:**

Alesi Andrea (1), Meo Federico (1), Patrizia Alleonato (1), Alessio Prota (1), Lorenzo Maiorano (1), Michele Montuori (1), Mattia Versace (1), Andrea Baglioni (1), Riccardo Pini (1)

1. University Hospital Careggi, Emergency DPT High-Dependency Unit, Florence, Italy

Keywords: NIV, Prognosis

Abstract :

OBJECTIVES: In a group of patients with acute hypoxemic respiratory failure (ARF), treated with noninvasive ventilation (NIV), we tested whether the correction of the PaO₂/FiO₂ ratio for the value of PEEP could improve its prognostic value

METHODS: This was a retrospective study, including all patients with hypoxemic ARF requiring NIV admitted in an Emergency Department High-Dependency Observation Unit (ED-HDU) over a 4-year period (January, 2014- December, 2017). We collected clinical data, arterial blood gas values and parameters of ventilation before the NIV beginning and after 1, 6, 12 and 24 hours from the initiation of NIV (respectively T0, T1, T6, T12 and T24). We calculated SOFA score upon admission in the Emergency department and after 24 hours. We calculated the Horowitz score (PaO₂/FiO₂) and an alternative score where the PEEP value was introduced ((PaO₂/(FiO₂*PEEP))*100). The primary outcomes were in-hospital mortality and the need of intubation.

RESULTS: The study population included 172 patients, mean age 75 ± 14 years, 61% male. The diagnosis of admission was pneumonia in 128 patients (74%), acute cardiac failure in 36 (21%) and other in 8 (5%). In-hospital mortality was 34% and 22 patients (13%) needed endotracheal intubation. Horowitz score was significantly higher in survivors compared to non-survivors after several hours from the NIV initiation (T0: 126 ± 69 vs 114 ± 75, p=NS; T1: 184 ± 90 vs 167 ± 96, p=NS; T6: 194 ± 94 vs 156 ± 78, p=0.013; T12: 199 ± 87 vs 157 ± 81, p=0.006; T24: 185 ± 88 vs 152 ± 68, p=0.028). Conversely the score, which included the value of PEEP did not show significant differences between survivors and non-survivors (T1: 29 ± 15 vs 27 ± 15, p=NS; T6: 31 ± 16 vs 26 ± 14, p=0.056; T12: 30 ± 14 vs 25 ± 15, p=0.079; T24: 25 ± 11 vs 25 ± 21, p=NS). Patients who underwent endotracheal intubation showed higher Horowitz score than those with successful treatment with NIV (T0: 122 ± 71 vs 121 ± 73, p=NS; T1: 185 ± 94 vs 139 ± 66, p=0.034; T6: 188 ± 90 vs 139 ± 78, p=0.033; T12: 192 ± 88 vs 140 ± 58, p=0.026; T24: 179 ± 86 vs 142 ± 59, p=0.087). Conversely, the score including the value of the PEEP did not show significant differences based on the indication to endotracheal intubation (T1: 29 ± 16 vs 24 ± 12; T6: 30 ± 16 vs 22 ± 13; T12: 29 ± 14 vs 23 ± 12; T24: 25 ± 17 vs 24 ± 14, all p=NS).

CONCLUSIONS: in a population of patients presenting with acute hypoxemic respiratory failure, the inclusion of the value of PEEP in the calculation of the PaO₂/FiO₂ ratio did not increase its prognostic value.

Trial Registration / Funding Information (only) :

NA

#23748 : To compare the sensitivity of lung ultrasound (POCUS) and chest x ray in patient with suspected or diagnosed Covid-19 pneumonia

Authors:

Hemant Narwani (1), Asif Naveed (2), Rashid Abuelhassan (2), Aslam Jamil (2)

1. , , Birmingham, United Kingdom

2. , swbh nhs trust, Birmingham, United Kingdom

Keywords: ultrasound

Abstract :**Introduction**

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Common symptoms include fever, cough, fatigue, shortness of breath and loss of smell. While the majority of cases result in mild symptoms, some progress to viral pneumonia, multi-organ failure. During this pandemic Emergency departments in UK are overwhelmed with the number of patients attending with suspected Covid-19. In this study we aim to review and analyse if bedside Lung Ultrasound can be used to detect early lung changes and compare the results with chest radiographs

Methods**Ø Study design**

A prospective cohort study conducted at Sandwell and west Birmingham hospital NHS trust, Birmingham in April and May 2020.

Ø Study setting and population

It was conducted in the accident and emergency departments of SWBH NHS Trust. Inclusion criteria adults above the age of 18 presenting with suspected covid-19 infection.

Ø Study protocol

Between April and May 2020 patients presenting to the covid area of accident and emergency, had pocus and chest x-ray as a part of their investigation set,

At the Sandwell site patients were scanned on the four areas in right lung and 4 areas in left lung anteriorly , while at the city site similar 8 areas were scanned posteriorly .

The linear probe was used for the upper lower and the axillary zone, while curvilinear probe was used to scan the lower lateral zones

The lung ultrasound looked for, pleural thickening, pleural irregularity, a lines, b lines, sub pleural consolidation.

All patients had chest x ray which was independently reported by the radiologist unaware of POCUS findings.

Doctors performing ultrasound, had previous experience in pocus and to standardize scan all went in half an hour training session and also had to complete a module at the I teach u website.

Ø Data analysis

As the data collection is still in process and will be completed by May 2020. Preliminary data that is available is on 20 patients .

POCUS findings were as follows

pleura irregular 35%

pleural thickning 50%

Alines35%

Blines60%

Subpleural consolidation30%

Pleural effusion15%

corresponding chest x ray of 20 patients showed no abnormality in 45% of cases whilst 55% of the cases had positive findings
in total 75% of the patients had more than 1 finding on POCUS

Limitation

There are limitations to this study which should be taken into consideration. First it is pilot study which represents a very initial relationship between POCUS and Covid -19 pneumonia. It is a small study and population was limited to certain area. Due to this it limits the ability to make comment on larger group of population

Conclusions

The initial results show that ultrasound is more sensitive than chest xray in picking up findings of Covid-19 lung disease. In particular POCUS is very sensitive in picking up pleural thickening and sub pleural consolidation. The findings have encouraged us to design a larger study, sized sufficiently to make specific conclusions about POCUS

Trial Registration / Funding Information (only) :

n/a

#23750 : Role of hypertonic saline solution in acute heart failure associated with renal failure

Authors:

achref belkacem (1), mohamed amine msolli (1), khaoula Bel Haj Ali (1), kouraichi Sirine (1), fatma ben salem (1), fedia latrech (1), kaouther beltaief (1), hamdi boubaker (1), Semir Nouira (1)

1. emergency department, Fattouma Bourguiba University hospital, Monastir, Tunisia

Keywords: hypertonic saline, heart failure, renal failure

Abstract :

Introduction : The management of acute heart failure in the emergency department represents a therapeutic challenge. Several studies suggest the administration of hypertonic saline solution (HSS) as adjunctive to diuretics to improve the therapeutic efficacy of the latter.

Aim : To evaluate the role of HSS in conjunction with diuretics in patients presenting to the emergency department with acute heart failure with renal failure.

Methods : A prospective randomized double blind study including patients with acute heart failure who present with an altered renal function. The patients were divided into two groups : a first group (HSS) receiving diuretics (250mg of furosemide) with HSS (50ml of 10% NaCl) and a second group (Placebo) receiving diuretics (250mg of furosemide) with placebo (50ml of dextrose 5%). All patients were assessed 24 hours after the administration of the treatment (BNP, renal function and LVEF). The outcomes ; the rate of readmission with acute heart failure and death at one month were evaluated.

Results : Upto January 2020 we have included 59 patients. The mean age of the population was 72 years \pm 10. 62% had diabetes, 68% hypertension, 65% had diagnosed heart failure and 53% had renal failure. The mean creatinine level at admission was $248 \pm 120 \mu\text{mol/L}$ and the median BNP was 1060ng/L. This population had a mean LVEF of $40\% \pm 13$. within 24 hours, bnp and criatininemia levels were lower in ssh group with non significant statistical difference

During the one month follow-up, we've noted 3 deaths in the placebo group as opposed to 2 in the HSS group ($p=0.6$). On the other hand, the rate of readmission with acute heart failure at month was 33% in the placebo group and 22% in the HSS group ($p=0.5$)

Conclusion : According to these priliminary results, HSS in conjunction with diuretics do not seem beneficial in the treatment of acute hear failure. That being said, this study needs a larger population.

#23753 : QUARANTINE LIFESTYLE BECAUSE OF COVID 19 IN 2020

Authors:

Brunilda Subashi (1), Glodiana Sinanaj (2), Jerina Jaho (3), Kristela Jaupaj (2), Fatjona Kamberi (2), Yllka Bilushi (2), Ledia Dine (2), Llambi Subashi (4), Elca Gerxhi (5), Ina Shuaipi (5), Leonard Likaj (5), Dhimiter Gerxhi (5)

1. , Universiteti "Ismail Qemali" Vlore, Vlore, Albania
2. Universiteti 'Ismail Qemali' Vlore, Universiteti "Ismail Qemali" Vlore, Vlore/Albania, Italy
3. Universiteti 'Ismail Qemali' Vlore, Universiteti "Ismail Qemali" Vlore, Vlore/Albana, Italy
4. Spitali Rajonal Vlore, Spitali Rajonal Vlore, Vlore/ Albania, Italy
5. Spitali Rajonal Vlore, Spitali Rajonal Vlore, Vlore/Albania, Italy

Keywords: quarantine, lifestyle, covid 19.

Abstract :

Introcuction: On 11 March 2020, WHO Director General characterized COVID-19 as a pandemic and currently they are 213 Countries, areas or territories with cases, 3 090 445 Confirmed cases and 217 769 Confirmed deaths.

Since March 9, Albania is in quarantine.

Purpose: Identification of lifestyle in quarantine.

Methodology: A simple questionnaire was used which was distributed online through social networks during 6-9 April 2020 and was completed by 503 individuals of the city of Vlora and other areas around it.

Results: prej 503 individuals participating in the study, 85% were female; 53% were aged 20-29 years; 72% with higher education; 65% feel intimidated by the situation created by COVID 19; 98% are taking better care of themselves and their loved ones these days; 66% have become calmer and more patient these days; 53% do not perform physical activity or various exercises at home; 94% are eating well; 97% are caring more these days for personal hygiene, the objects they touch and their home in general; 98% are informed how to protect yourself from COVID 19; 93% often wash their hands for 20 seconds and warm water; 79% have quality sleep; 57% read a book to distract from the situation or to gain more knowledge; 70% perform various fun activities at home.

Conclusions: COVID has raised fears among most respondents, yet they have become more patient and caring about their health and that of their families, have been informed about protective measures against COVID 19, and are taking more care of their hygiene. food, sleep and spend time qualitatively reading books or performing various fun activities. The only negative aspect that results from the study is that almost half of the respondents do not perform physical activity or various exercises at home.

#23754 : Bedside diagnosis and treatment of high risk pulmonary embolism using cardiac ultrasound

Authors:

Rim Dhaouedi (1), Badr Ferjeoui (2), aymen zoubli (3), Imen Mekki (4), emna Kallel (5), wiem Demni (5), amira bakir (5), Hamed Rym (4)

1. Emergency Department , Charles Nicolle Hospital, tunis, Tunisia
2. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency department Charles Nicolle Hospital, Hospital, tunis, Tunisia
4. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
5. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia

Keywords: emergency, diagnosis, ultrasound, probability, prognosis, thrombolysis, acute, pulmonary embolism

Abstract :**Introduction :**

High risk pulmonary embolism represents 5% of the total acute pulmonary embolism and constitutes a vital emergency justifying immediate therapeutic management. Process diagnosis managment should be initiated on the bedside patients and could reverse the prognosis.

Case report :

We report a case of a 66 year old female, who underwent hip surgery after a fracture two weeks ago and wich presented to the emergency department for abrupt dyspnea and diziness followed by syncope occuring during a session motor reeducation . Upon arrival, patient was conscious , well-oriented but polypneic with SpO2 of 77% on air and normal auscultation. The gazometry showed hypoxemia , hypocapnia , hyperlactatemia and an elevated arterial –alveolo gradient . Blood pressure was of 80/40 mmHg , heart rate of 130 bpm associated with signs of right heart failure. The initial ECG showed a tachycardia at 130 and S1Q3 sign. The left calf was tight with. Acute pulmonary embolism was suspected and considered likely based on the context, the clinical presentation and evaluation of Wells score about 9. A bedside cardiac transthoracic ultrasonography was done immediately , and showed with dilation of the right cavities and paradoxical septum with pulmonary arterial high pressure. A combined venous Doppler Ultrasound of the left limb showed deep thrombosis of the left common femoral vein. Since a high risk pulmonary embolism was diagnosed , our patient received thrombolysis by actilyse (100mg/2h) associated with unfractionated heparin . After thrombolysis , evolution was favorable within one hour of presentation with vital clinical stabilization. Further thoracic angiotomography objective bilateral massive pulmonary cores.

Conclusion:

Thrombolysis is the first-line treatment for high-risk pulmonary embolism in combination with anticoagulant (unfractionated heparin). Transthoracic ultrasound is an essential tool to the emergency physician and allows to detect signs of acute pulmonary heart in any unstable patient suspected of pulmonary embolism and to initiate thrombolysis.

#23755 : Lung Ultrasound in Covid-19 pneumonia: a report from Pavia emergency department experience

Authors:

Stefano Perlini (1), Marzia De Lorenzo (2), Lorenzo Demitry (2), Gianmarco Secco (2), Caterina Zattera (2), Francesco Salinaro (2)

1. Director Emergency Department, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy

2. Emergency Department, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy

Keywords: Lung ultrasound, covid 19 pneumonia, emergency department

Abstract :

Background: Coronavirus disease 2019 (COVID-19) is an emerging infectious disease, and Italy COVID-19 cases represent one of the biggest coronavirus outbreak outside Asia. Lung ultrasound (LUS) examination in the emergency context has been shown to have high diagnostic accuracy in the setting of community-acquired pneumonia and interstitial syndrome.

Study design and Methods: This was a prospective observational study. Aim of this study was to evaluate the diagnostic and prognostic role of LUS in COVID-19 pneumonia. We enrolled a cohort of 100 consecutive laboratory-confirmed COVID-19 patients presented to our emergency department (ED) from March 1st. Patients underwent LUS and chest X-ray in the Emergency Room. LUS score (LUSS) was derived by acquiring 12 ultrasound lung windows (2 anterior, 2 lateral and 2 posterior zones per hemithorax). We assigned a score from 0 to 3 on the basis of the lung artifacts and the loss of aeration for each area (0 = normal lung, 3 = complete loss of aeration). The total score was obtained by the sum of the points of all areas. Endpoints were the need of continuous positive airway pressure (CPAP) ventilation, of orotracheal intubation, hospital admission in either a General Ward or an Intensive Care Unit, and death. A further endpoint was early discharge from the Emergency Department.

Results: patients, respectively. LUS score was related with P/F (R^2 0.1630; $p < 0.0001$). According to Kaplan-Meier analysis, a LUS score > 12 predicted hospital mortality ($p < 0.01$). As to the combined endpoint (C-PAP, orotracheal intubation, or death), a LUS score higher than 12 had a 81.4% sensitivity and 61.3% specificity (AUC 0.767; $p < 0.0001$). A LUS score > 12 also predicted the need of CPAP (sensitivity 72.7%; specificity 74.3; AUC 0.737; $p < 0.011$), admission to the Intensive Care Unit (sensitivity 76.9%; specificity 76.0%; AUC 0.740; $p < 0.004$), and mortality (sensitivity 84.2%; specificity 53.1%; AUC 0.680; $p < 0.006$). Moreover, LUS score < 7 showed a 76.3% sensitivity and 74.0% specificity in identifying patients who were subsequently discharged from the Emergency Room and confined to home-restricted quarantine, without the need to be admitted (AUC 0.807; $p < 0.001$).

Discussion & Conclusions: Bedside LUS represents an effective tool for both the diagnosis and the prognostic stratification of COVID-19 pneumonia in the ED. It can accurately provide early-stage detection of patients with COVID-19 pneumonia having an initially normal CXR. Moreover, LUS was able to predict survival, positive-pressure oxygen need, and the possibility of early discharge from the Emergency Room. Therefore, LUS routine integration into the clinical

management of this challenging disease is strongly suggested.

Trial Registration / Funding Information (only) :

Trial Registration: no registration, not appropriate registry Funding: This study did not receive any specific funding. Ethical approval: not needed.

#23756 : Transfusion in the emergency department: Retrospective study over 17 months

Authors:

Kais Zaydi (1), Adel Sekma (2), youssef hassen (1), Khaoula Bel Haj Ali (3), hassan khalil (4), Mohamed Amine Msolli (5), Hamdi Boubaker (5), Semir Nourira (2)

1. emergency department of manastir, , fattouma bourguiba university hospital, Monastir, Tunisia
2. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, Monastir, Tunisia
3. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, monastir , Tunisia
4. emergency departement, emergency departement monastir, monastir, Tunisia
5. Department of Emergency, Fattouma Bourguiba University Hospital, Monastir, Tunisia, Monastir , Tunisia

Keywords: Transfusion; emergency department

Abstract :

Introduction: The transfusion of blood products in the emergency department is a therapeutic act which obeys recommendations and legal medical obligations; however, daily transfusion practices in the emergency department differ from one ward to another, thus it remains a subject debated with regard to its compliance with the recommendations.

Objective: Study the epidemiological profile of patients transfused in the emergency department and compare it with the literature **Methods:** We conducted a retrospective study over a period of 17 months including patients who were transfused in the emergency department. A data sheet was established to analyze the demographic and clinical–biological parameters of transfused patients. In addition, a specific surveillance form has been pre–established allowing surveillance of all transfused patients. **Results:** One hundred and fifty patients were included, divided into: 82 men (54.7.3%) and 67 women (44.7%), with an average age of 64.7 years. One hundred and forty five of the transfusions (96.7%) were made by globular concentrates, the most transfused blood group was O + (64 cases, 42.7%); poorly tolerated chronic anemia is at the top of transfusion indications by 59.3% followed by externalized digestive hemorrhage (24%) and 10% of cases were transfused for hemorrhagic shock in severely traumatized patients. The hemoglobin threshold before transfusion was on average 5.3 gr / l with maximum 8 gr / l and minimum 3.1 gr / l; 82 transfusions (54.7%) were carried out in the short–term hospitalization unit and 68 cases (45.3%), in the close monitoring or shocking unit. Transfusion incidents were noted in 5.3% in the form of fever (5 cases), pruritus (2 cases) and hypotension (1 case) with respective rates 3.3%, 1.3%, 0.7%. A systematic declaration of the incidents to the blood bank and to the bacteriology service was made. **Conclusion:** The results reported in our study are comparable to those of the literature, in terms of indications for emergency transfusion and transfusion accidents.

#23757 : Acute decompensated heart failure in the emergency department : Interest of the MEESSI score in predicting the prognosis**Authors:**

Rim Dhaouedi (1), Rim Dhaouedi (2), Imen Mekki (3), Hana Hedhli (3), Badr Ferjeoui (4), Rym Ben Kaddour (4), Anissa Chamssi (4), Hamed Rym (3)

1. Emergency Department , Charles Nicolle Hospital, tunis, Tunisia
2. Emergency Department , Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
4. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia

Keywords: acute heart failure, emergency, prognosis,

Abstract :

Introduction: Acute heart failure (AHF) in the Emergency Department ED is associated with high morbidity and mortality. Despite the existence of well-identified prognosis factors, the risk stratification remains difficult and often requires hospitalization. Hence, prognostic scores are important to guide the emergency physician in the management and orientation of such patients.

Objective: Study the usefulness of the MEESSI score in predicting mortality on day 30 of AHF patients admitted to the EM. Mortality classes were compared using ANOVA test

Methods: A prospective observational study was conducted over six months. Inclusion of patients admitted for AHF based on clinical criteria. Patients were classified into 3 clinical scenarios (SC) according to the systolic blood pressure (SBP) in mmHg : SC1 (SBP > 140), SC2 (SBP ≤ 140), SC3 (SBP

Results: Inclusion of 61 patients. Mean age was 69 ± 12 years with sex ratio of 1.34. Comorbidities N (%): hypertension 44 (72.13%) , diabetes 30 (49.18%) , coronary artery disease 21 (34.43%) , chronic heart failure 23 (37.7%) , chronic renal failure 26 (42.62%). The CS distribution was N(%): CS1 26 (42.63%), CS2 18 (29.5%), CS4 15 (24.6%) and CS 3 = 2 (3.27%). The MEESSI score founds N (%) : a low risk 18 cases (29.5%), an intermediate risk 28 cases (45.9%), a high risk 7 cases (11.47%) and a very high risk 8 cases (13.11%). The overall mortality rate was 9.83%. Two thirds of mortality rate were associated with a very high risk MEESSI score = 4 (6.5%). Mortality rates were statistically different with ANOVA test.

Conclusion: The MEESSI score showed its effectiveness in predicting acute heart failure patients' prognosis. However, multicentric validation is necessary.

#23759 : Assessment of therapeutic education in diabetes patients

Authors:

FATMAHEBAIEB (1), KARIMBELGUTH (1), NADIAZAOUAK (1), RANIAHMAISSI (1), IMENEABIDA (1), FADOUAKHALFAOUI (1), BOUTHEINAAMMAR (1)

1. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia

Keywords: therapeutic education-diabetes mellitus-emergency department-assesment

Abstract :

Introduction :

Mellitus diabetes is a chronic disease with a constantly increasing incidence. Its metabolic and degenerative complications can compromise vital and functional prognosis. Optimal control of diabetes can be achieved by adapting medication and lifestyle to reduce the occurrence of complications.

This study aimed to assess the level of knowledge of diabetic patients and to evaluate their ability to manage their condition.

Methods :

Prospective and descriptive study, including diabetic patients seen in the emergency department over a 3-month period. Data collection was conducted using a questionnaire including epidemiological data, medical history, type of diabetes and its degenerative complications, usual treatment and evaluation of patient therapeutic education knowledge.

Results :

Thirty seven patients were included. The average age was 59 years old [26-96]. The observed sex ratio was 0.48. We noticed that 35.1% of our patients were illiterate. Type 2 diabetes was found in 81.1% and insulin therapy represented 32.4% among usual treatment. The mean duration of diabetes was 9 years [0-41]. We found at least one kind of degenerative complication in 43.8%. Diabetic peripheral neuropathy was the most frequent degenerative complication (38.2%). Blood glucose measurement by glucometer showed that the mean level was 2.53 g/l [0.41-Hi]. The most common acute complications of diabetes observed were: Diabetic ketosis (2.7%), diabetic ketoacidosis (8.1%) and hypoglycemia (13.5%).The number of patients unaware of their last fasting blood glucose level was 24. Denial of disease in diabetes mellitus was observed in 8.1% of patients and patient non-compliance was observed in 18.9% of cases. It was found that 30% of type 1 and type 2 diabetes mellitus patients requiring insulin therapy were unaware of injection techniques. Those who did not have a glucometer at home accounted for 54.1% of cases. We noted that 48.6% of patients ignored the signs of hypoglycemia and 45.9% were unaware of the symptoms of hyperglycemia. Physical inactivity was noted in 73% of cases. Diet for diabetics was not followed in 21.6% of cases and poor foot hygiene was observed in 48.6% of cases.

Conclusion :

Our study allowed us to identify possible gaps in the therapeutic education of diabetics. It is expected that additional efforts will be made to sensitize healthcare professionals to the need to adapt the lifestyle of diabetic patients.

Authors:

maha touati (1), kaouther beltaief (1), youssef Hassen (1), adel sekma (1), kais zaidi (1), Hassen Mohamed Khalil (1), wahid bouida (1), hamdi boubaker (1), Semir Noura (1)

1. emergency department, Fattouma Bourguiba University hospital, Monastir, Tunisia

Keywords: health care professional motivation

Abstract :

Improving performance of the establishment depends mainly on the skills and expertise as well as motivation of health professionals working in it. Meanwhile, demotivation of health professionals constitutes a detrimental force that impedes the desired hospital performance. Demotivation at work is a universal phenomenon that affects all healthcare professionals especially in developing countries, it raises questions on the determining factors of motivation in healthcare professionals.

Materials and Methods : We conducted a descriptive analytic study that aims to identify motivation factors in healthcare professionals based on an approach revolving around pleasure ; independent external factors such as material reward or acknowledgment. Over a period of 15 days ; an anonymous questionnaire was given to 70 healthcare professionals in the emergency department to evaluate their motivation.

Results : We analysed 70 questionnaires. The characteristics of the population are demonstrated in table 1.

Tableau 1 : Population Characteristics

Le capital humain constitue la ressource principale des gestionnaires pour faire face à la nécessité d'adaptation aux innovations permanentes technologiques et médicale

S.

sex

Length of Service

Number

Percentage

Number

Percentage

Female

47

67%

Less than 10 years

47

68%

Male

23

33%

Over than 10 years

23

32%

Total

70

100.0

Total

70

100.0

Age

Function

	Number	Percentage
25–29 yrs	19	27%
Nurse		29
		41%
30–39 yrs	38	54%
Other		9
		13%
≥ 40 yrs	12	17%
Physician		32
		46%
Total	69	99%

Total

70

100.0

Communication with superiors was good in all healthcare professionals. However it was a little less between nurses and their colleagues. This confirms the concept of sense of belonging to the team and the concept of common vision. The nursing staff declared more pleasure during work (Figure 2)

Figure 1 : Communication with colleagues

Figure 2 : Pleasure in work

Conclusion : Despite actual difficult conditions, healthcare professionals maintain a pleasure in work in the emergency department.

#23761 : Community Frailty Response Service- the Emergency Department at your front door**Authors:**

Rosa McNamara (1), Elizabeth Little (2), David Menzies (1), Fergus Murray (3), Aidan Delaney (4), Kerri Donnelly (5), Shane O'Hanlon (6)

1. Emergency Department, St Vincent's University Hospital, Dublin, Ireland
2. , , Bray, Ireland
3. National Ambulance Service, National Ambulance Service, Ireland, Dublin, Ireland
4. Occupational Therapist, St Vincent's University Hospital, Dublin, Ireland
5. Occupational Therapy, St Vincent's University Hospital, Dublin, Ireland
6. Consultant Geriatrician, St Colmcille's Hospital, Loughlinstown, Dublin, Ireland

Keywords: Frailty, older person, Pre-hospital, Community, Alternative care pathways, Multidisciplinary, Covid-19

Abstract :**-Background/Purpose**

St Vincent's University Hospital is located in a suburb of Dublin, covering a catchment area of both urban (South West County Dublin) and rural areas (Co Wicklow), with over 57,000 attendances per year. There are at least 10 calls per day related to older people with falls and 100% are conveyed to our Emergency Department. From February 2020, our department made a successful bid to commence a weekend frailty and falls response service.

-Aim/Objective

With a frailty first response collaboration, initially for a weekend service, consisting of Advanced Paramedic, Emergency Medicine Registrar and Occupational Therapist. We saw patients acutely via the incoming 999/112 call stack and perform assessments of illness, injury, mobility, functionality and cognition. There is the potential for on scene treatment of minor illness and wounds, the supply of necessary aids and timely onward referrals to community teams to ensure patient safety and follow up. Based on similar projects in the UK, we estimate that we could see and treat over 50%, thus avoiding transport. A further 25% could be streamed to their Medical Assessment Unit. Our equipment included near patient testing bloods, point of care ultrasound (POCUS), portable ECG and patient aids (walking frames etc.)

-Methods

Initially calls were received and directed through the National Ambulance Service, but as a result of the Covid -19 pandemic, due to fewer older people presenting, and an increase in delayed presentations, we expanded our service to 7 days a week from the 10th April 2020. We expanded our referral pathways to include GPs, Geriatricians, senior nursing staff, and supported our long-term care facilities during the outbreak.

Patients seen by the service were registered on the Emergency Department Maxims system, which allowed an electronic patient record. Clinical governance was overseen by the ED, with immediate clinical advice available from on call Consultants from EM, Geriatric Medicine, Infectious Diseases and Palliative Care. Feedback was provided to the referring Clinician.

Results/Conclusions

Since the service commenced, we have attended 148 calls in the community and 18 subsequently transferred to hospital. 8 were moved to our hospital, and 10 referred to other hospitals in the area. Two patients died at home with Palliative care and support. 18 patients have been seen by the service and subsequently reviewed.

We have undertaken visits to Nursing Homes separate to this to offer advice on Infection Prevention Control and support.

The Covid-19 Pandemic allowed rapid expansion of the service from weekend to 7 day. It is likely that demand will remain even as service resumes. It has demonstrated high levels of satisfaction from GPs, care homes, patients and staff.

Trial Registration / Funding Information (only) :

Irish Government Sláintecare €185k for Pilot Project

#23762 : Post traumatic dislocation and migration of humeral head in intrathoracic position**Authors:**

Badr Ferjeoui (1), Imen Mekki (2), Hana Hedhli (2), Rim Dhaouedi (3), fatma mejri (4), safia Othmani (1), aymen zoubli (5), amira bakir (4), Hamed Rym (2)

1. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
2. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
3. Emergency Department , Charles Nicolle Hospital, Tunis, Tunisia
4. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
5. Emergency department Charles Nicolle Hospital, Hospital, tunis, Tunisia

Keywords: major trauma, unusual fracture, humeral dislocation, migration, thoracic trauma, blunt, surgery, emergency , tomography, diagnosis

Abstract :

Introduction :

Major trauma is frequent worldwide especially in young patients and highly associated with mortality in high velocity situations. Several unusual clinical conditions may be present due to high velocity criteria and could impair immediate prognosis with an urgent need of diagnosis process management and immediate adequate therapeutic solutions

Observation :

We report the case of Mr XX 45 year old brought to the emergency department by the emergency prehospital medical system following traffic road accident with high velocity circumstances and ejection. Patient was comatous at admission and was mechanically ventilated. Clinical features associated moreover a blunt thoracic trauma with respiratory distress but nor subcutaneous emphysema neither tympanism or auscultation abnormalities defended a chest tube insertion. Patient was immediately intubated and stabilized with optimization of haemodynamic settings and underwent whole body tomography. Scan objective dislocation and migration of right head humeral into homolateral intrathoraci position. Patient was immediately transferred to the surgery ward. Unfortunately evolution was fatal.

Conclusion : Dislocation and migration of humeral head into thoracic position is unusual and rare over the littérature. Mechanism of migration remains uncertain and surgery is the only attitude.

#23763 : An unusual cause of chest pain

Authors:

Montassar Bhouri (1), Imen Mekki (2), Aymen Zoubli (3), Rim Dhaouedi (3), Badr Ferjaoui (3), Emna Kallel (3), Wafa Sleimi (3), Rym Hamed (4)

1. Emergency Department, HabibThameur Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia
3. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
4. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: chest pain, aortic ulcer, diagnostic process, emergency

Abstract :**Introduction:**

Chest pain is one of the leading causes of presentation to the emergency department. Patients must undergo a rigorous diagnostic processes. We report the case of patient who was at first admitted to our emergency department for an NSTEMI, but further investigations revealed a surprise.

Case report:

A 55 year old man presented to the emergency department. He had chest pain during the last week. He has diabetes and hypertension but no history of coronary disease.

At presentation, he complained of a typical angina. He had an arterial pressure of 130/70mmHg and a pulse of 89 bpm without signs of heart failure. Respiratory rate was 18 cpm and pulse oximetry was 99%.

Electrocardiogram showed no abnormalities

Chemistry blood panel showed troponin level of 53 controlled at 60 ng/l.

The chest pain was persistent despite of an optimal treatment with double anti-aggregation, anticoagulation and anti-ischemic treatment. However, repeated electrocardiograms were normal. By consequence the diagnosis of aortic dissection was suspected, antithrombotic treatment was withhold, and an aortic angiography scan was performed. It concluded to a superficial aortic ulcer measuring 13*5 mm of the descendant aorta associated to a calcified stenosis of the interventricular coronary artery. The patient was transferred the cardiology department.

Conclusion:

Emergency physician must be alert and constantly evaluate their patients and try to reconsider the diagnosis if necessary.

#23764 : Wunderlich's syndrome: case report

Authors:

Imen Mekki (1), Rym Ben Kaddour (2), Fatma Mejri (2), Hana Hehdli (2), Wiem Demni (2), Badr Ferjaoui (2), Asma Jendoubi (2), Rym Hamed (3)

1. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia
2. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
3. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: emergency, wunderlich, retroperitoneal hematoma

Abstract :**Introduction:**

Spontaneous retroperitoneal hematoma (SRPH) is usually secondary to traumatic or spontaneous vascular lesions, aneurysmal lesions, coagulopathy or overdose with anticoagulants. The spontaneous idiopathic form is rare and it presents a difficult diagnostic dilemma witch cause a delayed management and unnecessary paraclinical investigations. In the other hand, a rapid recognition allows a rapid management with a conservative treatment and better outcome .

Observation:

A 63-year-old male with no pathological history who consulted in the emergency department (ED) with migrating pain, thoracic and lumbar, having occurred at rest with concomitant sweating and evolving since a few hours. There was no concept of trauma. On examination, he was eupneic with a pulsed oxygen saturation of 98%. His blood pressure was 140/80 mmHg in both arms with a regular pulse rate of 90 bpm, no signs of peripheral hypoperfusion and a normal cardiopulmonary auscultation. He had a GCS of 15 and his pain was rated 6/10. His abdomen was soft and non tender. The temperature was 37 ° C. The initial ECG showed a sinusal rhythm with signs of left ventricular hypertrophy. The chest X-ray was normal. The abdominal ultrasound was normal. His blood sample showed hyperlactataemia (3.6 mmol/L), no biological inflammatory syndrome and his hemoglobin level was 14 g/dL with no deglobulisation. An aortic dissection was suspected and aortic angioscan was requested. It showed retroperitoneal hematoma of the right renal lodge of 63 mm maximum thickness extended on 20 cm without suspicious renal or adrenal lesion.

Conclusion:

Although rare, the HRPS deserves special attention. It requires rapid management, active resuscitation and a well codified attitude. The emergency physician must be able to suspect this diagnosis in front of suggestive clinical arguments and even with a normal abdominal ultrasound.

#23765 : ACUTE HEPATITIS A: ABOUT 22 CASES

Authors:

SONDESS MAGHRAOUI (1), FATMA HEBAIEB (2), RANIA HMAISSI (2), NADIA ZAOUAK (2), BOUTHEINA AMMAR (2), FADOUA KHALFAOUI (2), NEILA MAAROUFI (3)

1. Department of Pediatrics, REGIONAL HOSPITAL OF JENDOUBA, Jendouba, Tunisia
2. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia
3. EMERGENCY DEPARTMENT , REGIONAL HOSPITAL OF JENDOUBA, Jendouba, Tunisia

Keywords: Acute hepatitis A - pediatric emergency care

Abstract :

BACKGROUND

Hepatitis A is a communicable disease of the liver caused by the hepatitis A virus. It is usually transmitted through the fecal-oral route or consumption of contaminated food or water. Most people recover completely and do not have lasting liver damage. In rare cases, Hepatitis A can cause liver failure and death. In Tunisia, the prevalence of acute hepatitis A in children still high and epidemics can be explosive. The aim of this study is to describe clinical and biological properties and risk factors for this infection in order to find preventive strategy.

METHODS

This is a retrospective observational study including all patients presenting to the emergency department with acute hepatitis A during the period from 2012 to 2017 and hospitalized on pediatric wards. We analyzed patient's demographics, clinical characteristics, biological characteristics, medication and evolution.

RESULTS

22 patients were included. The average age was 7 years with sex ratio of 1,7 .One case of familial personal contact was noted. The symptoms of hepatitis A included especially jaundice in 100% of cases, abdominal pain in 9 cases (40,4%), asthenia in 8 cases (36,6%) ,darkcolored urine in 7 cases (31%) , vomiting in 6 cases (27,2%) , fever over 38 ° C in 5 cases (22,7%), and pale stools in 4 cases (18%) . Elevated liver enzyme and high bilirubin level was detected in 100% of patients. Prothrombin time test was < 50% in one case. The specific diagnosis of hepatitis A infection was based on the detection of HAV-specific Immunoglobulin G (IgM) antibodies in the blood, in all patients. An acute liver failure with death was observed in 10 years old child.

CONCLUSION

In general, prognosis of hepatitis A is excellent with a lifelong immunity. However, patients could die from fulminant hepatitis. Improved sanitation, food safety and immunization are the most effective ways to combat this infection.

#23766 : Predictive factors of overtriage in severe trauma patients admitted to the Emergency Department**Authors:**

Rim Dhaouedi (1), Imen Mekki (2), Badr Ferjeoui (3), aymen zoubli (4), safia Othmani (3), montassar bhouri (5), youssef ben brahim (5), Hamed Rym (2)

1. Emergency Department , Charles Nicolle Hospital, tunis, Tunisia
2. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
3. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
4. Emergency department Charles Nicolle Hospital, Hospital, tunis, Tunisia
5. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia

Keywords: major trauma, triage tools, overtriage, decision making, evaluation

Abstract :**Introduction :**

Traumatology is the first cause of death among young people. Triage of severe trauma (ST) patients is a crucial step for their management. It is imperative for any emergency physician to have adequate assessment tools and decision-making rules to assess the severity and prognosis in severe trauma at an early stage.

Goal :

Study the predictive factors of over-triage in severe trauma patients admitted to the resuscitation room (RR).

Methods :

Prospective study over 33 months. Descriptive, epidemiological and analytic study.

Results :

Inclusion of 600 ST patients. Median age = 34 ± 16 . Sex-ratio = 4.2. ISS was less than 16 in 199 ST (33%). Among these patients, 35 ST (18%) were brought to ED via medical transport versus 123 ST (62%) via non medical transport. The most incriminated mechanism was ejection in 121 cases (61%). Ninety-five ST (48%) had no significant medical history. The vital constants on admission were n (%): SpO₂ <90%: 11 (5.5); SBP

Conclusion :

Several prognostic criteria for severe trauma patients have been validated to organize the reception of severe trauma victims and their management. However, some of them may expose to the concept of overtriage interfering with the estimation of severity as shown in this study. More combined tools are preferred to be tested for more accuracy in such life threatening condition

#23767 : An unusual hemorrhagic complication of anticoagulant treatment**Authors:**

Rim Dhaouedi (1), Rym Ben Kaddour (1), Hana Hehdli (1), Badr Ferjaoui (1), Safia Othmani (1), Youssef Ben Brahim (1), Aymen Zoubli (1), Rym Hamed (2)

1. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: hemorrhagy, anticoagulants, thromboembolic disease

Abstract :**Introduction**

Acenocoumarol is an anticoagulant commonly used in many thromboembolic disease. Patients receiving this medication are exposed to hemorrhagic iatrogenic complications which can be life-threatening. We report a case of a women that had an hematoma in an unusual area.

Case report

A 56 year old female presented to the emergency department for dysphonia. She receives an anticoagulant medication for a valvular disease. A week before she had an odynophagia for which she took penicillin.

On admission she was conscious, she had a blood pressure of 120/70 mmHg, a heart rate of

100 pm. She had a normal auscultation, pulse oximetry was 99%. She had an ecchymosis on her abdomen and a mandibular ecchymosis with an hematoma on the floor of the mouth.

There were no other apparent bleeding. Blood panel showed an INR of 7.02.

A cervico-thoracic scanner and abdominal scanner showed an important infiltration of the cervical subcutaneous tissues without hematoma.

Since the upper airway were at risk of obstruction, our patient had 25 U/kg of PPSB. INR was controlled 30 minutes later, it was equal to 1.56.

Conclusion

Our patient presented a therapeutic challenge, she had an artificial mitral valve and must have an INR between 2.5 and 3.5 which exposes her to an hemorrhagic risk. A close clinical and biological surveillance is extremely necessary to avoid thromboembolic and hemorrhagic accidents.

#23768 : Pulmonary neurogenic oedema: a case report

Authors:

Rym Ben Kaddour (1), Amel Maaref (2), Anissa Chamsi (1), Badr Ferjaoui (1), Imen Mekki (3), Emna Kallel (1), Rym Hamed (2)

1. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, tunis, Tunisia
3. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia

Keywords: neurogenic oedema, brain injury

Abstract :**Introduction:**

Neurogenic pulmonary edema is a clinical syndrome defined by the association of a significant central nervous system insult with acute pulmonary edema.

Case report:

A 42 year old female presented to the emergency department in a coma. She had no medical history besides her well controlled hypothyroidism. 24 hours before her arrival, the patient complained of severe headaches with one episode of vomiting.

On arrival, she had a GCS of 8, a dilated reflective pupils, a capillary glucose of 1.95, a heart rate of 90 bpm, a blood pressure of 120/ m70mHg. Her respiratory rate was 25 bpm, a pulse oximetry saturation of 80% with accessory muscles use. Lung auscultation showed bilateral rhonchi. There were no signs of trauma or focal deficit. EKG showed an ST-depression in the anterolateral leads. Chest ray showed bilateral alveolar opacities. Her blood samples showed a Serum lactate of 10.1 mmol/L, a troponin of 279 ng/l, a serum creatinine of 118 and normal thyroid hormones level. Toxic panel came up negative.

She was intubated and ventilated with a lung protective strategy. A Brain CTA was performed showing a grade 4 subarachnoid hemorrhage with no evidence of brain aneurysm. No surgical treatment was indicated.

The patient's hemodynamic state deteriorated with a vasopressor requirement. Despite 100% of FiO₂ on the ventilator the maximum SpO₂ achieved was 92% with a PaO₂: FiO₂ ratio of 92 suggestive of severe ARDS. Later on, she developed an anisocoria for which she received hypertonic saline solution with a return of normal pupil diameter. A second anisocoria was rapidly followed by a cardiac arrest recovered within 15 min. 30 min later, the patient presented another cardiac arrest that was not recovered.

Conclusion:

The pathophysiology of this entity is still unknown. Catecholamine storm is thought to be the main mechanism.

#23769 : Prognostic accuracy of the serum lactate level at admission for mortality among adults with Sepsis in the emergency department

Authors:

HANA HEDHLI (1), safia othmani (2), Imen Mekki (3), Emna Kallel (4), Wiem Demni (4), Rym Hamed (5)

1. emergency department, EPS Charles Nicolle, Tunis, Tunisia
2. Service des urgences, EPS Charles Nicolle, Tunis, Tunisia
3. Emergency departement, Charles Nicolle hospital, Tunis, Tunisia
4. Emergency department , Charles Nicolle 's hospital, Tunis, Tunisia
5. , Charles Nicolle hospital, Tunis, Tunisia

Keywords: serum lactate, mortality, sepsis, emergency department

Abstract :**BACKGROUND:**

Sepsis is a common critical condition caused by the body's overwhelming response to certain infective agents. Many biomarkers, including the serum lactate level, have been used for sepsis diagnosis and guiding treatment. Recently, the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3) recommended the Sequential Organ Failure Assessment (SOFA) and the quick SOFA (qSOFA) rather than lactate for screening sepsis and assess prognosis.

Goal: we aim to explore the prognostic accuracy of the lactate level for mortality in septic in the emergency department (ED).

METHODS:

It was a prospective observational study conducted over six months. The baseline characteristics, laboratory test results and outcomes for sepsis patients were collected and analyzed. We compared two groups; G1: higher lactate (> 2 mmol/l) et G2: lower lactate (< 2 mmol/l).

RESULTS:

A total of 118 cases of sepsis were initially identified. The average age was 63 ± 17 years with a sex ratio = 1, 7. Cardiovascular risk factors were dominated by diabetes (47%) followed by hypertension (41%), and chronic renal failure (17%). the average lactate level was 2,8. Patients in the higher lactate group had higher mortality than those in the lower lactate group ($p=0,038$; OR=2,5; 95% IC [1,04 – 6,04]

CONCLUSION:

Lactate is considered as a prognostic predictor of mortality for patients with sepsis

#23770 : Emergency department management of meningitis and encephalitis

Authors:

Safia Othmani (1), Safia Othmani (1), Dhekra Hosni (1), Anissa Chamsi (1), Hana Hehdli (1), Amira Bekir (1), Aymen Zoubli (1), Wiem Demni (1), Rym Hamed (2)

1. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia

2. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: meningitis, encephalitis,, emergency

Abstract :

Introduction: Bacterial meningitis and viral encephalitis are infectious disease emergencies that can cause significant patient morbidity and mortality. Controversies remain about accuracy of clinical evaluation, role of radiographic imaging and interpretation of cerebrospinal fluid analysis at the emergency setting.

Methods: We conducted a monocentric retrospective study over 3 years that included all patients aged more than 14 years admitted with the diagnosis of meningitis or meningoencephalitis infection disease.

Results: 80 patients were included. Median age was $39,8 \pm 18$ years. Sex ratio was 1,4. Meningitis represented 61,3 % and meningoencephalitis 36,4%.

History showed that 9 patients (23,8 %) had diabetes, 6 patients (7,5%) had otolaryngologic infection diseases, 2 patients (2,5%) had an osteomeningeal breach, 4 patients (5%) had epilepsy, 2 patients (2,5%) had bacterial meningitis. Symptoms was predominantly represented by fever in 81,3% of cases, headache in 71,3%, vomiting in 47,5%, altered mental status in 36,3%, seizure in 8,8%. Physical examination showed that GCS was less than 15 in 42,5%, stiff neck in 62,5%, neurological deficiency signs in 5%.

Cerebrospinal fluid was clear in 60% of cases, trouble in 27,5% and purulent in 12,5%. Median pleocytosis was 81 WE (6-3500) with predominant neutrophils in 51,3%. Hypoglucorrhachia was observed in 41,3% and hyperproteinorrhachia in 61,2% of cases. Bacteriological results was contributive in only third of cases.

The CT scan was performed in 60 % of cases and revealed abnormalities in 15% of all cases.

Antibiotic treatment: 48,8% of patients received C3G, 15% ampicillin, 12,5% gentamycin, 21,3% acyclovir and dexamethasone in 42,5%.

Orientation: only 21 patients (26%) was transferred to the intensive care unit and 57 cases 71,3% was treated and discharged from the emergency department. Early mortality was at rate of 2,7%.

Conclusion : Patients who are presumptively or certainly diagnosed with meningitis or encephalitis based on clinical findings, CSF results and CNS imaging were hospitalized, treated and discharged for the majority from the emergency department.

#23771 : Renal laceration caused by anterior stab wound injury**Authors:**

emna Kallel (1), Badr Ferjeoui (2), Imen Mekki (3), aymen zoubli (4), Rim Dhaouedi (5), amira bakir (1), Rym Ben Kaddour (2), Maaref Amel (3), Hamed Rym (3)

1. emergency department, Charles Nicolle's teaching Hospital, tunis, Tunisia
2. Emergency department Charles Nicolle Hospital, Emergency department Charles Nicolle Hospital, Tunis, Tunisia
3. Emergency Department Charles Nicolle Hospital , tunisia, tunis, Tunisia
4. Emergency department Charles Nicolle Hospital, Hospital, tunis, Tunisia
5. Emergency Department , Charles Nicolle Hospital, Tunis, Tunisia

Keywords: trauma, stab wound, injury, unusual localization, emergency , decision

Abstract :

introduction : Stab wound injuries are frequent in emergency field and are mostly characterized by their non previsible anatomic features contrasting with the mild or minimal anatomic injury.

case report : we report the case of Mr XX 17 year old patient brought by his relatives after being agressed on public area. At admission, patient was counscious , heamodynamically stable and painful with 10/10 on pain scale. examination noticed a stab wound like penetrating trauma on the skin localized on the left basithoracic with no subcutaneous emphysema nor haemorrhage . auscultation was symmetric and normal . Patiebnt was clinically stable , he was given chlorydrate morphin to relieve pain and underwent thoracoabdominal computed tomography. Scanner showed either left renal laceration, urine extravasation and doubtful colic injury. Patient was transferred to the surgery ward to further explorations.

Conclusion : This case showed the imprevisible anatomical features that could be caused by stab wounds injuries. Emergency physician must be aware about such evolution and be large in imaging indications of computerized tomography . There is no association between the aspect of the injury and underlying anatomical features.

#23772 : Unusual presentation of acute pulmonary embolism in emergency departement

Authors:

Rim Dhaouedi (1), Rym Ben Kaddour (1), Hana Hehdli (1), Abdelaziz Ben Taher (1), Safia Othmani (1), Amira Bekir (1), Aymen Zoubli (1), Rym Hamed (2)

1. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: pulmonary embolism, abdominal pain

Abstract :**Introduction :**

pulmonary embolism is commun pathology in the emergency department but its sytmatology is sometimes atypical.

Case report :

A 72 year old female presented to our emergency departement. She had a history of diabetes and hypertension. She complained of a vomiting and abdominal pain and lipothymia .

At presentation she had no hemodynamic impairement , respiratory rate was of 20 bpm and pulse oxymetry was of 99% without respiratory signs of struggle . Abdominal examination showed an epigastric tenderness.

Electrocardiogram showed right bundle block. Gazometry showed hypoxemia , hypocapnia and hyperlactatemia. Chemistry blood pannel was normal except of an elevated troponin level at 132 ng/l and and elevated hepatic enzyma : ASAT/ALAT : 529/352.

Chest angioraphy scann showed an acute pulmonary embolism .

Conclusion :

Our patient had no chest pain and was not clearly dyspenic but the hypoxemia as well as the right bundle block and the elevated troponin made the diagnosis of acute pumonary embolism suspected.

#23773 : Concomitant embolism in the subclavian and pulmonary artery: a case report.

Authors:

NADIA ZAOUAK (1), FATMA HEBAlEB (1), IMENE ABIDA (1), KARIM BELGUITH (1), RANIA HMAISSI (1), FADOUA KHALFAOUI (1), BOUTHEINA AMMAR (1), ABDERRAOUF MOKRANI (1)

1. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia

Keywords: Pulmonary embolism - paradoxical embolization

Abstract :

Introduction :

The term paradoxical embolism refers to the particular case where, during an abnormal communication, most often a permeable oval foramen (FOP), an embolus can have as a starting point a vein and as an end point an organ supplied by an artery other than the lung.

We report the case of a patient who presented a pulmonary embolism associated with left subclavian arteries occlusion.

Case report:

A 75-year-old man was admitted to the ER with acute dyspnea, a painful and functional impotence of the left upper limb.

On admission, the patient had tachypnea (respiratory rate of 26 breaths/minute), 70% SO₂, tachycardia (heart rate of 110 beats per minute), asymmetry of blood pressure, no left radial pulse and a cold left upper extremity. Neurological examination was normal.

A chest CT scan was performed and revealed proximal pulmonary embolism and occlusion of the left subclavian arteries. He was treated with oxygen therapy and anticoagulation. The patient was transferred to the pulmonary intensive care unit after a surgical emergency was ruled out.

Conclusion :

The majority of studies have shown that pulmonary embolism can be associated with arterial or venous occlusion forms following the migration of emboli.

#23774 : Indications for radiography in patients with acute ankle and/or foot injuries**Authors:**

KARIM BELGOUTH (1), FATMA HEBAIEB (1), NADIA ZAOUAK (1), RANIA HMAISSI (1), IMENE ABIDA (1), BOUTHEINA AMMAR (1), FADOUA KHALFAOUI (1), ABDERRAOUF MOKRANI (1)

1. EMERGENCY DEPARTMENT , MAHMOUDE EL MATRI HOSPITAL, Ariana, Tunisia

Keywords: emergency department- radiography- ankle and/or foot injuries

Abstract :

Introduction :

Ankle and foot traumatic injuries are frequently encountered in emergency departments and they are considered as a significant public health issue. Most of the time, imaging trauma patients is considered normal which increases significantly the health care spending. This study aimed to assess the indications for radiography in patients with acute ankle and/or foot injuries.

Methods :

This was a prospective and descriptive study, involving patients with acute ankle and/or foot injuries attending the emergency department, over a period of 3 months. Regardless the clinical examination data, we performed a foot and/or an ankle X-ray for all our patients depending on the affected limb. According to Ottawa rules, 2 groups of patients were identified; the first group included those X-ray was indicated and the second one included those X-ray was not indicated.

Results :

Twenty seven patients were included. The average age was 30 years old [7-78]. The observed sex ratio was 2. Isolated ankle trauma was found in 15 patients. Right ankle was affected in 78.9% of cases. Isolated foot trauma was observed in 8 patients. Right foot was affected in 58.3% of cases. At the time of the accident, the foot position was supine in 70.4%. The mean score of visual analog scale pain was 5 [3-8]. Post-traumatic swelling was noticed in 66.7%. Post-traumatic hematoma was found in 7.4%. Total functional impotence was observed in 33.3% of patients. Ankle X-ray was indicated according to the Ottawa rules in 73.7% of cases. Foot X-ray was indicated according to the Ottawa rules in 100% of cases. Overall, we have identified two ankle fractures (10%), and three foot fractures (25%). Positive predictive value of Ottawa ankle rules was 12.5% while negative predictive value was 100% which means that the sensitivity of the test was 100% and its specificity was 26.32%. Positive predictive value of Ottawa foot rules was 25% while negative predictive value was 100% which means that the sensitivity of the test was 100% and its specificity was 18.2%.

Conclusion :

Ottawa rules allow a real decrease of radiography requests in patients with ankle and/or foot injury. Their use should be extended in all emergency departments.

#23775 : Chest pain revealing primary gastric tuberculosis: case report

Authors:

RANIA HMAISSI (1), FATMA HEBAIEB (1), NADIA ZAOUAK (1), BOUTHEINA AMMAR (1), FADOUA KHALFAOUI (1), ABDERRAOUF MOKRANI (1)

1. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia

Abstract :**BACKGROUND**

Primary gastric tuberculosis is an extremely rare localization. Diagnosis can be difficult because it has no specific clinical features and can affect both immunocompetent and immunocompromised individuals. Data on this rare disease are not available. There are only a few published studies on this disease.

We report one case of primary gastric tuberculosis presenting with chest pain in an immunocompetent patient without lung involvement.

CASE PRESENTATION

A 26-year-old woman presented to the emergency department with chest pain for 7 days. There was no fever or cough. She reported a weight loss of 2 kg last month. There was no past or family history of TB. Interrogation noted no evidence of TB infection. She was vaccinated against tuberculosis as a child and had a medical history of anemia.

Her clinical examination revealed no abnormalities. Her electrocardiogram (ECG) was without abnormalities. Her complete blood count, liver and kidney function tests were normal. Chest X-ray revealed no pathology.

No cardiac or pulmonary disease was diagnosed. An endoscopy of the upper intestine was performed to find a gastric disorder that could explain the symptoms. This investigation showed diffuse nipple gasropathy. Endoscopic biopsies of the stomach revealed granulomatous inflammation suggestive of gastric tuberculosis.

Chest CT scan was normal, in particular the absence of signs of old or active lung involvement with Mycobacterium Tuberculosis. There was no Mycobacterium tuberculosis in the mind or urine. A colonoscopy was suggested and revealed no abnormalities. The HIV viral marker test was negative.

The patient was treated with antituberculous drugs. While on treatment the patient became symptom free.

CONCLUSION

Gastric tuberculosis remains a rare localization. Endoscopy and biopsy are the diagnostic modalities of choice. Early diagnosis is essential to prevent morbidity and mortality. Most patients respond very well to antituberculous therapy. Clinicians should keep in mind that even in the absence of immunodeficiency, tuberculosis can affect any organ and has a variety of characteristics.

#23776 : Pseudoaneurysm of the superficial temporal artery: about a case study**Authors:**

NADIA ZAOUAK (1), FATMA HEBAIEB (1), RANIA HMAISSI (1), FADOUA KHALFAOUI (1), BOUTHEINA AMMAR (1), KARIM BELGOUTH (1), KAIS BEN REJEB (1), IMENE ABIDA (1), ABDERRAOUF MOKRANI (1)

1. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia

Abstract :**Background :**

Pseudoaneurysms of the superficial temporal artery are rare lesions responsible less than 1% of all aneurysms. Mainly due to localized rupture of the vascular wall, they usually occur after direct trauma to a branch of the temporal artery or secondary to post-traumatic necrosis. We report the case of a patient who presented a pseudoaneurysm of the superficial temporal artery.

Case report :

A 23-year-old professional boxer, with no significant pathological history, was admitted to the emergency room for the development of left frontotemporal swelling due to head trauma during physical training. The patient was conscious and has stable hemodynamics. Clinical examination revealed a painful and expandable swelling in the left temporal region, suggesting the diagnosis of a false temporal artery aneurysm. Doppler ultrasound confirmed the diagnosis by ascending a false subcutaneous aneurysm of the left temporal region, developed on the left superficial temporal artery.

Discussion and Conclusion:

The pseudo-aneurysm of the superficial temporal artery must be mentioned before any temporal subcutaneous training, especially in the presence of the concept of trauma. Its diagnosis is based on history and clinical examination. Doppler ultrasonography is the reference examination and its treatment is surgical.

#23777 : Toxicology of traditional herbal medicine: case of Ruta Granevolens poisoning

Authors:

NADIA ZAOUAK (1), FATMA HEBAIEB (1), RANIA HMAISSI (1), BOUTHEINA AMMAR (1), FADOUA KHALFAOUI (1), IMENE ABIDA (1), KARIM BELGUTH (1), ABDERRAOUF MOKRANI (1)

1. EMERGENCY DEPARTMENT , MAHMOUD EL MATRI HOSPITAL, Ariana, Tunisia

Abstract :**Background :**

The Ruta Granevolens (El Figel) is known in traditional medicine. Decoctions are prepared by breaking the parts of the plant into small pieces and it has multiple virtues: anti-epigastralgia, antihypertensive and dewormer. It is particularly used in children suffering from gastroenteritis. Its application is still frequent and we had described cases of serious intoxication secondary to its use. The objective of this study was to raise awareness of the risks of traditional herbal medicine.

Case report :

We report the case of a 14-month-old infant admitted to the emergency department for fever with vomiting associated to severe diarrhea and digestive intolerance.

Initial examination revealed a fever (39° C) with no obvious source of infection. Biological evaluation revealed hepatic cytolysis and a coagulation disorder. The child was hospitalized in the pediatric ward. In view of the worsening neurological condition and convulsions, a lumbar puncture and cerebral CT scan were performed and they came back without abnormalities. According to the interrogation of the family, the diagnosis of intoxication was confirmed and the patient improved.

Discussion and Conclusion:

Epidemiological data on cases of plant poisoning are rare and probably underestimated a public awareness strategy on the toxic effects of medicinal plants seem important.

#23778 : Typical pericarditis electrocardiogram features**Authors:**

Imen Mekki (1), Badr Ferjaoui (2), Emna Kallel (2), Rim Dhaouedi (2), Abdelaziz Ben Taher (2), Aymen Zoubli (2), Safia Othmani (2), Rym Hamed (3)

1. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia
2. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
3. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: pericarditis, EKG, ultrasound, emergency

Abstract :**Introduction:**

Pericarditis is a common cause of chest pain. Its most common cause is viral infection. Its early recognition by emergency physician is challenging in the process diagnosis of chest pain and is crucial to guide optimal safe therapeutic attitude. In this context, EKG analysis is the cornerstone of the diagnosis and emergency management.

Observation:

Mr. MA, 65 years old, with a history of diabetes and renal failure, presented to the emergency department for dyspnea evolving within a week associated with fever, sore throat and diarrhea since 3 days. The initial examination showed a respiratory frequency at 35 cpm, an oxygen saturation at 94%, bilateral crackles on pulmonary auscultation and respiratory struggle signs. His blood pressure was 90/50 mmHg, his heart rate at 120 bpm with peripheral signs of tissular hypoperfusion and right heart failure signs. His GCS was 15. He was afebrile. His gazometry showed hypoxemia and metabolic acidosis. EKG was made and showed typical signs of pericarditis: PQ segment depression, ST segment elevation at the inferior leads (D2>D3) with ST depression on lead avR. Chemistry blood panel showed inflammatory syndrom, anemia and renal failure. Chest ultrasound showed mild pericardial effusion without tamponade criteria. The patient was transferred to ICU for further management.

Conclusion:

In this case, EKG and ultrasound helped to diagnose pericarditis and eliminate tamponade as the etiology of shock. Typical pericarditis electrocardiogram features must be recognized by emergency physician.

#23779 : Acute aortitis in Emergency department: A rare cause of chest pain**Authors:**

Imen Mekki (1), Dhekra Hosni (2), Anissa Chamsi (2), Aymen Zoubli (2), Hana Hehdli (2), Safia Othmani (3), Rym Ben Kaddour (2), Rym Hamed (4)

1. Urgences, Hôpital Charles Nicolle, Tunis, Tunisia
2. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
3. Urgences, Hôpital Mongi Slim La Marsa, Tunis, Tunisia
4. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: chest pain, aortitis, emergency

Abstract :**Introduction :**

Acute aortitis is a rare life-threatening condition caused by several distinct systemic rheumatologic diseases or infectious diseases.

There are several idiopathic and autoimmune inflammatory conditions that may affect the aorta, including systemic lupus erythematosus, rheumatoid arthritis, ankylosing spondylitis, sarcoidosis, Reiter syndrome, and Behcet disease.

It is characterised by different and non specific clinical finding making this condition under-diagnosed.

Observation :

A 54-Year-old male with a history of COPD presented to emergency department with recurrent chest pain with posterior irradiation that began from one week. The chest pain was substernal and heavy but did not worsen with deep inspiration, change of position, or palpation.

The physical examination showed a conscious patient, he was algic with profuse sweat. Blood pressure was 200/100 mmHg symmetrical on both arms the heart rate was 100 per min and we found paraplegia with a D4 sensitive level. Cardiac enzymes were within normal limits and EKG was normal.

Aortic dissection was suspected and a CT angiography was performed that allowed to rule out an acute aortic affection and showed a circumferential mural thickening of both thoracic and abdominal aorta. Guillain-Barré syndrom was also suspected but a lumbar puncture was normal.

A lumbar MRI imaging has showed an ischemic myelitis.

The patient recieved steroide therapy and was tranferred to reanimation.

Conclusion :

Aortitis is a pathological term designating inflammation of the aortic wall, regardless of its cause. The clinical presentation of aortitis is non specific and variable. Prompt recognition, correct diagnosis and appropriate treatment are essential in order to avoid life-threatening complications.

#23780 : Wellens syndrome:a case report

Authors:

Youssef Ben Brahim (1), Rym Ben Kaddour (1), Houyem Zouari (1), Hana Hehdli (1), Abdelaziz Ben Taher (1), Amel Maaref (2), Safia Othmani (1), Rym Hamed (2)

1. Emergency Department, Charles Nicolle Hospital, Tunis, Tunisia
2. Urgences, Hôpital Charles Nicolle, tunis, Tunisia

Keywords: wellens, chest pain, cardiology, emergency

Abstract :**Introduction**

Wellens syndrome was first described in 1982 defined by: an instable angina associated with a negative T waves in the anterior leads. STEMI is the most common complication of this particular entity. It reveals a stenosis of the interventricular coronary artery.

Case report:

A 62 years old male presented to the emergency department for chest pain evolving since 1 month with exacerbation the last two days. He had diabetes and hypertension with no history of coronary disease.

At examination: the patient was algic with symmetric blood pressure of 140/70 mmHg pulse was 78 bpm with no signs of heart failure or peripheral signs of tissular hypoperfusion. He had no respiratory impairment.

Electrocardiogram showed negative T waves in the anterior leads.

Chemistry blood panels was normal except of elevated troponin level of 53 µg/l controlled to 2100 µg/l.

Antischemic as well as antithrombotic treatment was initiated and the patient was transferred to the cardiology department for PCI which showed proximal complete stenosis of the interventricular coronary artery. Angioplasty was then performed.

Conclusion:

Wellens syndrome is a serious entity among cardiac diseases. It must be recognized on the EKG by the emergency physician at an early stage as it can evolve soon to a STEMI.

#23793 : PROGNOSTIC VALUE OF NON INVASIVE INDICATOR OF ENDOTHELIAL FUNCTION IN PATIENTS ADMITTED TO THE EMERGENCY DEPARTMENT WITH CHEST PAIN

Authors:

fatma ben salem (1), Hassen Mohamed Khalil (1), fadwa lajili (1), mohamed amine msolli (1), youssef Hassen (1), adel sekma (1), hamdi boubaker (1), Semir Nouira (1)

1. emergency department, Fattouma Bourguiba University hospital, Monastir, Tunisia

Keywords: chest pain endothelial fonction

Abstract :

Introduction: Chest pain is a frequent complaint in the emergency department. Cardiovascular risk stratification of patients admitted with chest pain is sometimes challenging, hence the importance of non invasive methods that are both simple and reliable to predict the prognosis in this context.

Aim : To determine the prognostic performance of endothelial function assessment using the Endo-PAT in patients admitted to the emergency department with non traumatic chest pain.

Patients and Methods : It's a prospective study conducted in the emergency department from March 2016 to September 2017 on patients admitted to the chest pain unit. All patients included in the study underwent a measure of the endothelial function via Endo-PAT. The endothelial function is presented as RHI (Reactive Hyperemia Index). The cut-off used to define an endothelial dysfunction was determined based on the ROC curve. The follow-up of patients was conducted via telephone at 1 month from the ER admission date noting any cardiovascular complications (or MACE : Major Adverse Cardiovascular Events)

Results : In total, we included 503 patients. During the 1 month follow up, a MACE was noted in 4.6% of patients. Endothelial dysfunction was defined at $RHI < 1.9$. The patients who developed a MACE had a median RHI of 1.24 [IQR : 1.14–1.38] compared to 1.5 [IQR 1.24–1.85] in patients who did not develop a MACE, $p=0.04$. The RHI alone did not demonstrate a good prognostic performance to predict the occurrence of MACE with a sensitivity of 35% and a negative predictive value of 96%. The association of RHI with TIMI did not improve the sensitivity of the latter (83% for the TIMI-RHI vs. 91% TIMI alone). Area under the ROC curve regarding 1 month prognosis for the RHI ; TIMI score and TIMI-RHI were 0.68, 0.79 and 0.74 respectively.

Conclusion : The Endo-PAT is an unreliable tool in the risk stratification in patients admitted to the emergency department with non traumatic chest pain.

#23796 : Point-of-Care ultrasound induced changes in management of unselected patients in the Emergency Department - A prospective single-blinded observational trial**Authors:**

Jesper Weile (1), Christian Frederiksen (2), Christian Laursen (3), Ole Graumann (4), Erik Sloth (5), Hans Kirkegaard (6)

1. Emergency Department, Regional Hospital Horsens, Horsens, Denmark
2. Cardiology, Aarhus University Hospital, Aarhus, Denmark
3. Respiratory Medicine, Odense University Hospital, Odense, Denmark
4. Radiology, Odense University Hospital, Odense, Denmark
5. Honorary Professor, University of Cape Town, Cape Town, South Africa
6. Research Center for Emergency Medicine, Aarhus University, Aarhus, Denmark

Keywords: Point-of-Care Ultrasound, Emergency Medicine

Abstract :**Background**

Point-of-Care ultrasound (POCUS) changes the management in specific groups of patients in the Emergency Department (ED). It seems intuitive that POCUS holds an unexploited potential on a wide variety of patients. However, little is known about the effect of ultrasound on the broad spectrum of unselected patients in the ED. This study aimed to identify the effect on the clinical management if POCUS was applied on unselected patients. Secondly the study aimed to identify predictors of ultrasound changing management.

Methods

This study was a blinded observational single center trial. A basic whole body POCUS protocol was performed in extension to the physical examination. The blinded treating physicians were interviewed about the presumptive diagnosis and plan for the patient. Subsequently the physicians were unblinded to the POCUS results and asked to choose between five options regarding the benefit from POCUS results.

Results

A total of 403 patients were enrolled in this study. The treating physicians regarded POCUS examinations influence on the diagnostic workup or treatment as following: 1) No new information: 249 (61.8%), 2) No further action: 45 (11.2%), 3) Further diagnostic workup needed: 52 (12.9%), 4) Presumptive diagnosis confirmed 38 (9.4%), and 5) Immediate treatment needed: 19 (4.7%). Predictors of beneficial ultrasound were: (a) triage >1, (b) patient comorbidities (cardiac disease, hypertension or lung disease), or (c) patients presenting with abdominal pain, dyspnea, or syncope.

Conclusion

POCUS was found to be potentially beneficial in 27.0 % of all patients. High triage score, known cardiac disease, hypertension, pulmonary diseases, a clinical presentation with abdominal pain, dyspnea, or syncope are predictors of this. Future research should focus on patient-important outcomes when applying POCUS on these patients.

Trial Registration / Funding Information (only) :

Registration: The trial was registered prior to patient inclusion with the Danish Data Protection Agency (<https://www.datatilsynet.dk/> Case no: 1-16-02-603-14) and Clinical Trials (www.clinicaltrials.gov/ Protocol ID: DNVK1305018). Funding: The first author (JW) was funded from the Health Research Fund of Central Denmark Region for this project. None of the co-authors received funding for this original research. The authors had full control of the data and the interpretation of these.

#23809 : Early epidemiological and clinical analysis of the first 200 patients with COVID-19 admitted via the Emergency Department in Kings College Hospital, London: a retrospective cohort study.

Authors:

Ruth Sneepe (1)

1. Emergency Medicine, King's College Hospital, London, United Kingdom

Keywords: COVID-19; epidemiology; clinical presentation; clinical analysis; emergency medicine; respiratory medicine; intensive care medicine; critical care

Abstract :**Background**

March 2020 the WHO declared a world wide pandemic of coronavirus disease 2019 (COVID-19), the disease caused by SARS-CoV-2. We describe the epidemiology, diagnostic findings, and current clinical outcomes of patients admitted via the Emergency Department (ED) at Kings College Hospital.

Methods

A retrospective observational study of the first 200 patients admitted via ED that tested positive for SARS Co-V.

The first admission was on March 3, the last patient on March 26. Outcomes were followed up until March 28.

Data were obtained from the electronic patient records.

Chest X-rays were scored using the adapted RALE-score for COVID-19 as introduced by Wong¹.

Findings

- Median age of the patients admitted was 63 years, 115 (57.5%) were male.
- 132 (66%) patients were of Black-Asian-Minority-Ethnicity (BAME) (51.5%), compared to 47 (23.5%) of white ethnicity. BAME patients were younger with an equivalent ratio of male to female.
- Most common comorbidities were hypertension (n=98, 49%) and diabetes (n=77, 38.5%).
- 108 (54%) patients were admitted to the ward without a ceiling of care, 70 (35%) to the ward with a ceiling of care and 22 (11%) to Critical Care.
- Ethnic minorities (OR 3.17), having 1 or more comorbidity (OR 2), higher neutrophil count (OR 3.92), higher creatinine (OR 2.50) and higher CRP (OR 2.82) appear to be predictors of Critical Care admission.
- Radiological Severity Score is a significant predictor with an adjusted OR of 1.63, with patients admitted on Critical Care having a score of 5.5 compared to on the ward (without ceiling of care) of 2.9.

Conclusion

Admission for COVID-19 was correlated to race and the prevalence of hypertension and diabetes. The likelihood of the need for Critical Care was associated with Radiological Severity Score. Further follow up is needed to address possible other attributing factors such as ethnicity and laboratory markers as CRP, neutrophils and creatinine.

Trial Registration / Funding Information (only) :

none

#23811 : Inter-hospital communication and transfer practices during COVID 19 pandemic in Karachi, Pakistan. A brief overview.

Authors:

ghazanfar saleem (1), saima salman (2), Imran Jamal (3), quratulain maroof (3), ashar alam (3), quratulain maroof (3)

1. Consultant EM, The Indus Hospital, Karachi, Pakistan, Karachi, Pakistan
2. Consultant EM/ Program Director, The Indus Hospital, Karachi, Pakistan, Karachi, Pakistan
3. Emergency Management, The Indus Hospital, Karachi, Pakistan

Keywords: COVID 19, Pandemic, Referral systems, Emergency care

Abstract :**Introduction:**

COVID-19 (Novel Coronavirus-19) is a new strain of coronavirus that had previously not been identified in humans. It first emerged in Wuhan, China, in December 2019, and has since been declared as an outbreak by World Health Organization (WHO).

With Pakistan facing double burden of disease under normal environmental conditions, the situation calls for a wise utilization of existing resources and prompt decision making on part of healthcare officials in Emergency departments (ED) as well as inpatient admissions. Adding on to this problem is the lack of centralized Emergency Medical services (EMS), absence of systematic referral systems that result in delays, improper referrals to hospitals lacking the desired facilities and unnecessary exposure of healthcare workers in this delayed undertaking.

Methods:

A mobile phone and WhatsApp based group called, "COVID unit Coordination" and a subgroup "COVID Karachi Daily updates", were established that became operational on 20 April, 2020, with six hospitals on board. These groups are administrated by The Indus Hospital (TIH) with an Excel based dashboard and collaborative institutes include A detailed report is shared every morning comprising of variables like available hospital beds and number of ventilated and non-ventilated patients. Since all hospitals are functioning on 100% occupancy during the pandemic, frequent referrals need to be made as soon as beds become vacant. Another step taken is the establishment of liaison with EMS, Aman and Edhi Ambulance services.

Results:

Since the inception of the groups, nineteen patients have been referred from The Indus Hospital to various other facilities. All the referred patients were COVID 19 positive, tested through nasopharyngeal swabs and PCR. Three patients were intubated and sixteen patients required just high flow oxygen. These patients were referred out after clear communication regarding their ventilator needs and COVID related complications by TIH team.

Verbal feedback was taken from the receiving facilities post referral and safe referral was ensured.

Discussion:

There is ample opportunity to strengthen referral systems in Pakistan. The Pakistani health system consists of public, private for-profit, and private non-profit institutions that vary in their capabilities in managing the burden of COVID 19. The current confirmed cases of COVID 19 in Pakistan are 14,612 with 3233 recovered cases and mortality of 312. In the province of Sindh, there have been 5291 confirmed cases. The capital of Sindh, Karachi has an estimated population of 14.91 million, slum areas with people living in close quarters and variation in scope of healthcare facilities. Through establishment of mobile phone and WhatsApp based informal referral system, the transfer of very sick, infectious patients has been found to be expeditious and safe.

Another facet for improvement that has been brought into play through this exercise is the judicious use of ambulance services in transferring patients to the appropriate facilities, based on the expertise and capacity of the ambulance.

All these endeavors have the potential to be scaled up to be continued once the pandemic is contained as proper referral systems and EMS are the need of the day in a busy city like Karachi.

