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A case of dyspnea after femur fracture

Elisa Gesu (1), Pietro Bellone (1), Eleonora Maria Pisano (1), Maria Antonietta Peigottu (1), Luca Mellace (1)
1. UOC Medicina d'Urgenza e Pronto Soccorso, Ospedale San Carlo Borromeo - ASST Santi Paolo e Carlo, Milan, ITALY

Ospedale San Carlo Borromeo
Sistema Socio Sanitario Regione Lombardia
ASST Santi Paolo e Carlo

Introduction

Fat embolism syndrome (FES) is a rare but potentially fatal complication of long bone fracture or orthopedic surgery. The classic triad of presentation (hypoxia, confusion and petechial rash) (1) is not present in all patients, and often it presents with only respiratory distress. Due to non-specific symptoms, the diagnosis is difficult, and can be achieved combining the clinical manifestation in the appropriate setting together with typical imaging findings (2;3;4)

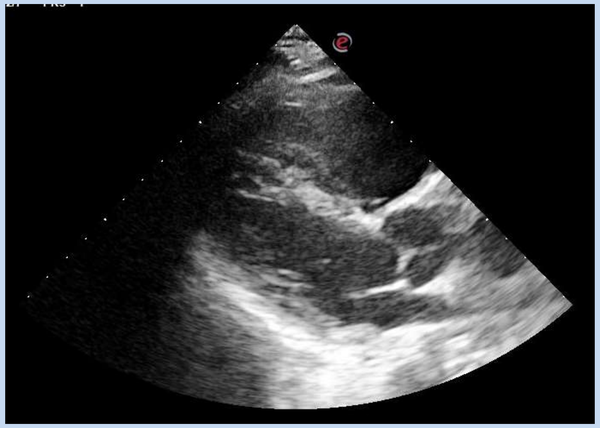
Case report

A 53-years old woman presented to the Emergency Department (ED) 24 hours after a diagnosis of left femur fracture without surgical indication, complaining about worsening dyspnea. She suffered from mental retardation, spastic quadriparesis, epilepsy and osteoporosis.

At the admission to the ED she was febrile, agitated and dyspnoic, with oxygen saturation 80%, heart rate 110 bpm and blood pressure 120/90 mmHg and her body temperature 39° C.

The ***physical examination*** revealed reduced chest sounds with bilateral crackles.

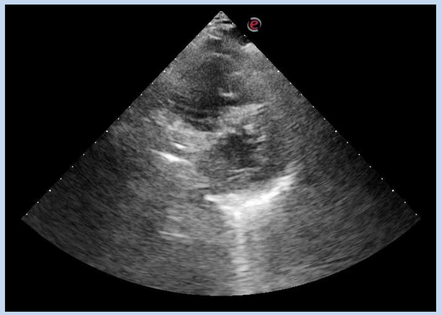
Figure1. Echocardiography – parasternal long axis view.
Increased RV size



The ***point of care cardiac ultrasound*** showed a dilatad and hypocinetic right ventricle (RV) (Fig. 1) with abnormal septal wall motion (Fig2).

The ***point of care thoracic ultrasound***, bilateral consolidations.

Figure2. Echocardiography – parasternal short view.
a) Systole - Increased RV size
b) Diastole: flattering of the interventricular septum (D-shaped left ventricle) due to RV overload



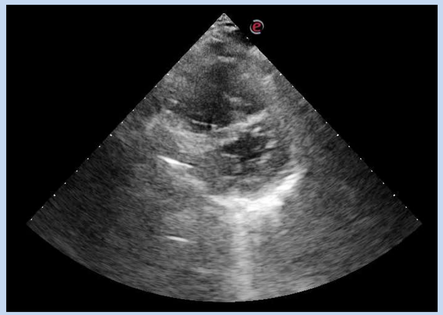


Figure 3. Pulmonary CTA.
Lobular consolidantions, ground glass aeras, lung effusion

The ***computed tomography pulmonary angiography (CTA)*** revealed lobular consolidations, ground glass areas and areas of crazy paving, in particular in the right upper lobe. Bilateral pleural effusion was also present. No intraluminal filling defects in the pulmonary arteries were present (Fig. 3).

The patient started support ***therapy*** with high flow oxygen, fluid resuscitation and antibiotic therapy with ceftriaxone showing a rapid improvement in clinical conditions and a complete resolution in few days.

Discussion & Conclusion

Although there is no a reference standard test for the diagnosis of FES, the combination of the patient's medical history, together with the imaging findings on chest CT and echocardiography, in specific clinical situation, such as post traumatic event, can help to achieve the diagnosis of FES(2,5). This clinical case seems relevant due to the rarity of the clinical condition, and because of it leads us to reflect on the diagnostic procedures in appropriate clinical scenarios and the importance of the pretest probability in making diagnosis and therefore in the patient's management.

References

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