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Rare case of intra abdominal bleeding: spontaneous rupture of superior mesenteric artery pseudoaneurysm

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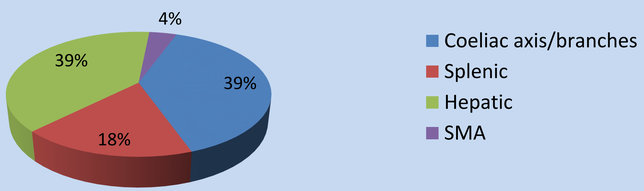
Background:

Visceral arteries aneurysms (VAA) and **pseudo aneurysms** (VAPA) are very rare entities, with an incidence of 0,01 to 0,2 % autopsies. Amongst all VAPA, isolated SMA branch one is the rarest one, representing 4% of all VAPAs.
Rupture and bleeding of VAA and VAPA has a very significant mortality rate (37 to 50%).
Most commonly VAPAs are secondary to surgery, trauma, infection and inflammatory disease.
Risk factors include age, male sex, hypertension, hyperlipidaemia, CAD, diabetes, smoking, CKD.
In literature, only 2 cases of spontaneous VAPA were reported and prior to this case there was only 1 report on involvement of SMA.

VAPA localization



Data collection:

Retrospective observational case control study

The patient :

83 years old man with past medical history of IHD, HTN, CVA, DVT, and diverticular disease, on rivaroxaban, aspirin and B-blockers brought to the ED Resuscitation area by ambulance following a pre-syncopal episode caused by sudden onset of acute abdominal pain.

Results & discussion :

30 minutes after arrival the patient deteriorated, manifested signs of shock (RR14, SpO2 96% (A), HR 75 BP 55/37, T35.8).
Fluid resuscitation and inotropic support commenced.
VBG: **pH 7.381, Hb 66, Hct 20.2, Lactate 5.8**.
Bedside USS abdomen (fig.1): abdominal aorta 1.53 cm;
Free fluid found in perihepatic and paracolic areas internal bleeding of ? source suspected.
Massive haemorrhage protocol initiated.
CT abdominal and pelvic scan with contrast: mesenteric bleeding originating form distal SMA, without visible lesion.
Emergency embolization performed (fig 2), showing spontaneous SMA pseudo aneurysm rupture.
The patient was admitted to ITU and after 8 days discharged home.
Six months post discharge the patient is feeling well, apart from complaints on occasional abdominal pain, likely secondary to minor bowel ischaemia following embolization.

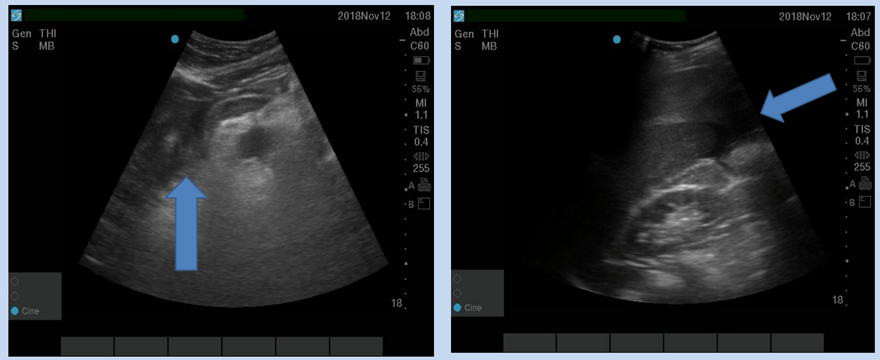


Fig 1. Bedside USS showing free fluid in right paracolic area (left) and Morrison's pouch (right)

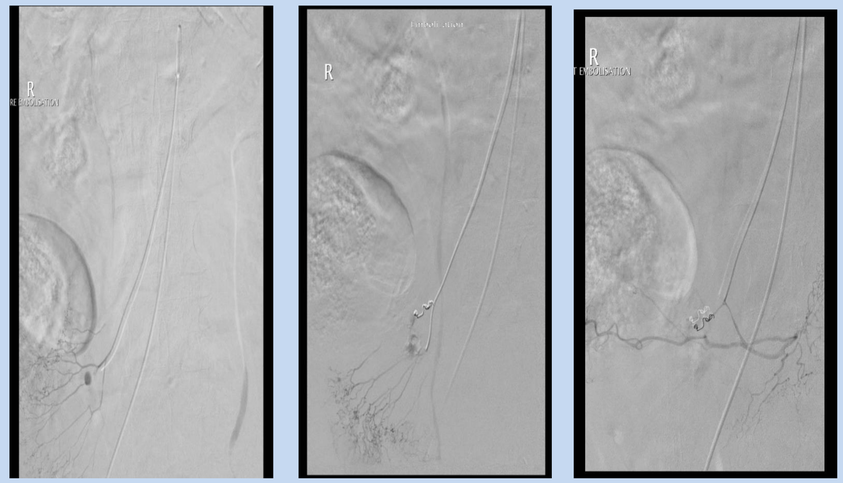


Fig 2: CT pre – embolization (left), during embolization (middle) post - embolization (right)

Conclusion & perspectives :

VAA and VAPA:

- **Very rare conditions**
- **Dangerous clinical entities**
- **Potentially fatal** if not promptly recognized and treated. **Should be considered as differential diagnosis** in acute abdominal pain with signs of shock, raised lactate and anaemia.

Bedside USS abdomen is an important adjunct to initial assessment

Contrast CT is the gold standard for definitive diagnosis.

Multidisciplinary approach is required, starting from **treatment of shock** (including inotropes) with activation of **massive haemorrhage protocol** and definitive control of bleeding **(angioembolization**)