

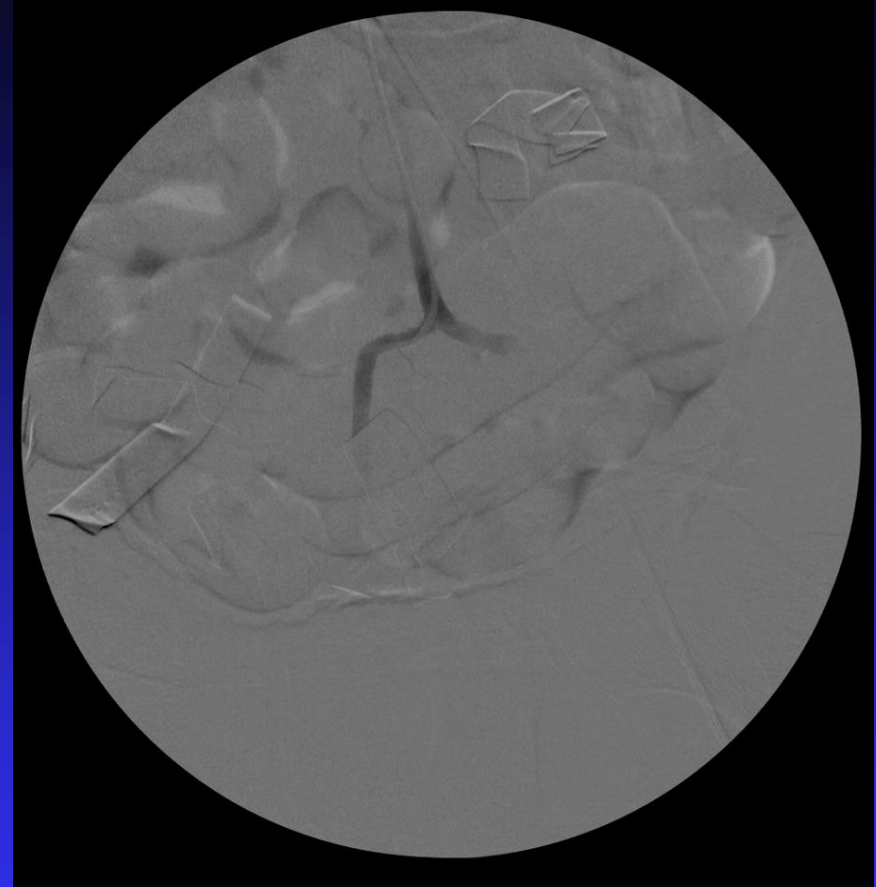
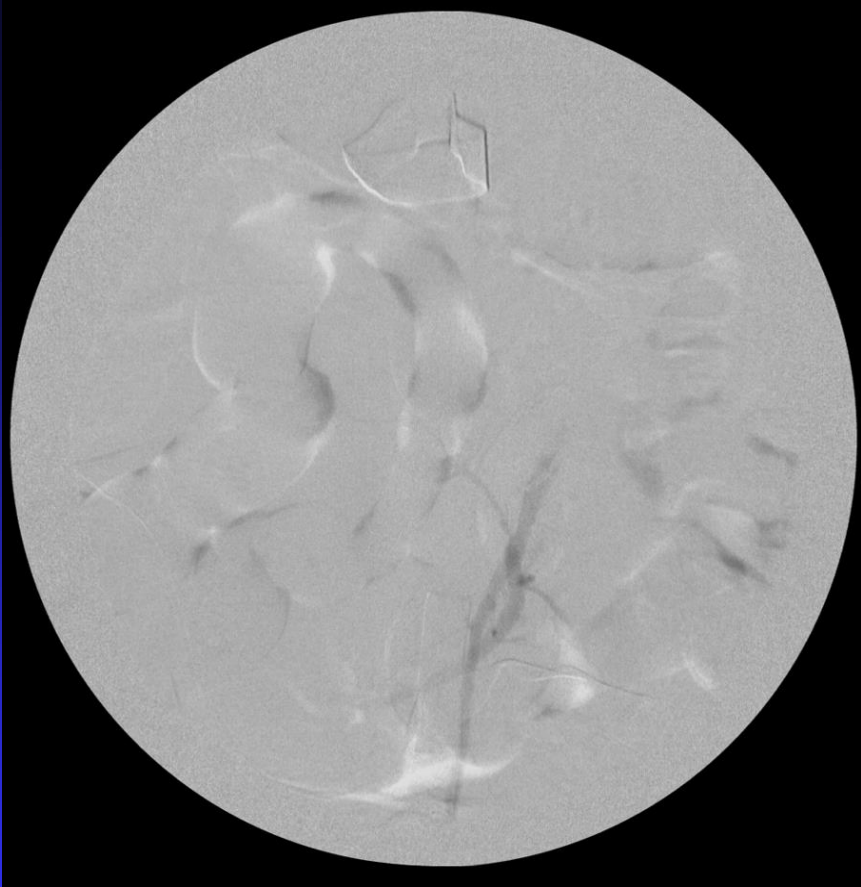


CAIR Case of the Month

Case Courtesy of Drs. A. Shrivastava and L.M. Boucher
McGill University

Clinical History

- 61-year patient post polytrauma presented to our hospital emergency department
- Due to critical clinical condition of the patient, patient was transferred directly to the OR
- Right thoracotomy, right total lung cortication and repair of a gastric conduit
- Orthopedic surgery for sacral, subtrochanteric and left calcaneus fractures was performed
- Bilateral iliac artery embolization, angiogram of bilateral renal/cealic arteries and IVC filter placement performed by IR in the OR



Bilateral iliac artery embolization

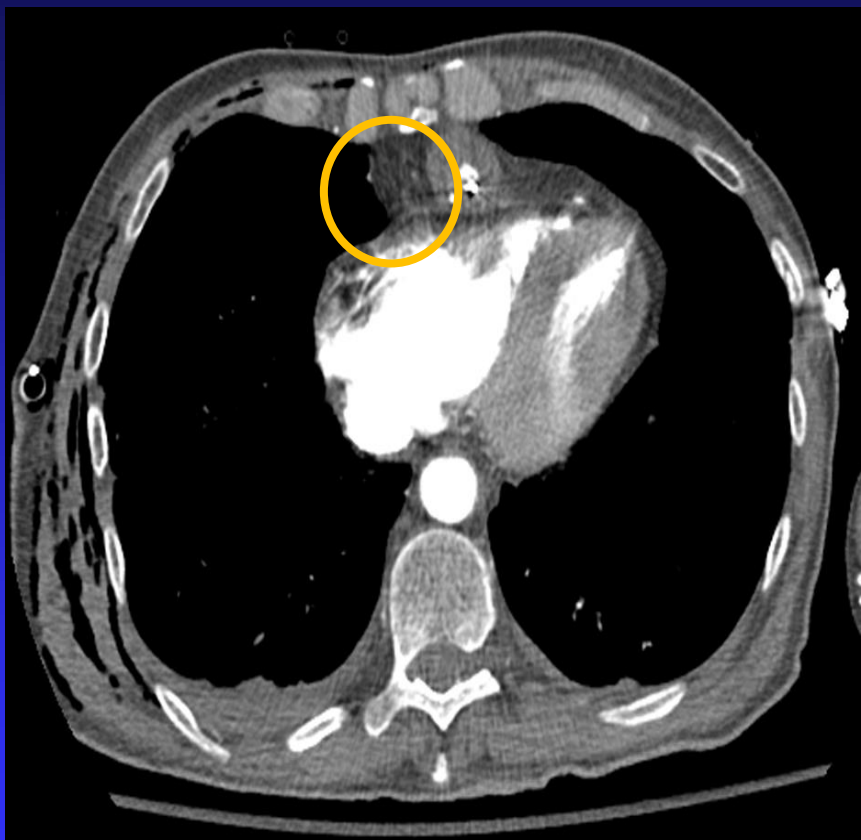


Bilateral renal angiogram



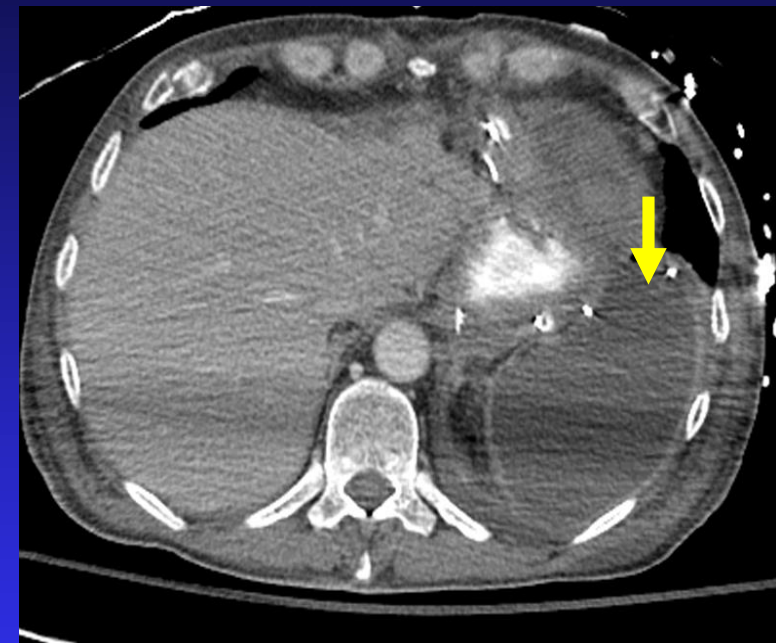
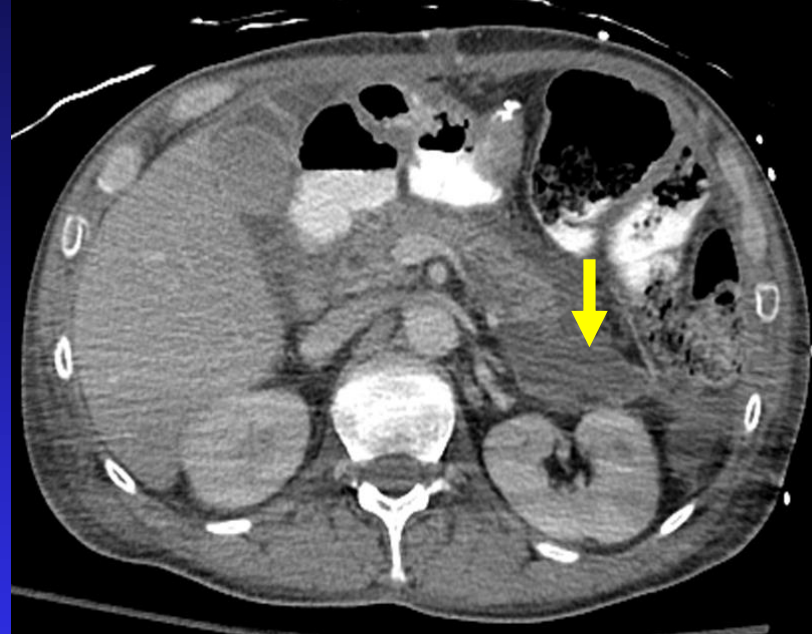
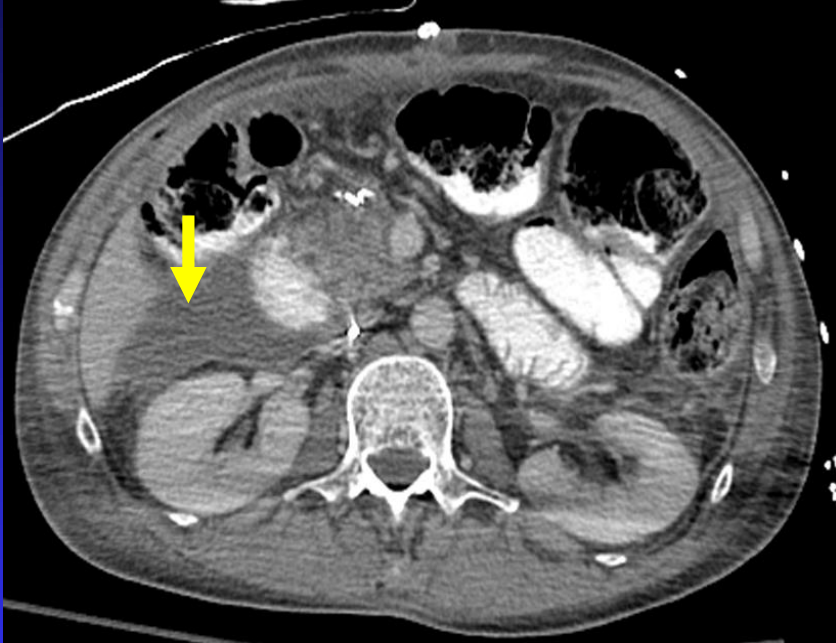
Celiac angiogram and IVC filter placement

CECT was performed on POD 1



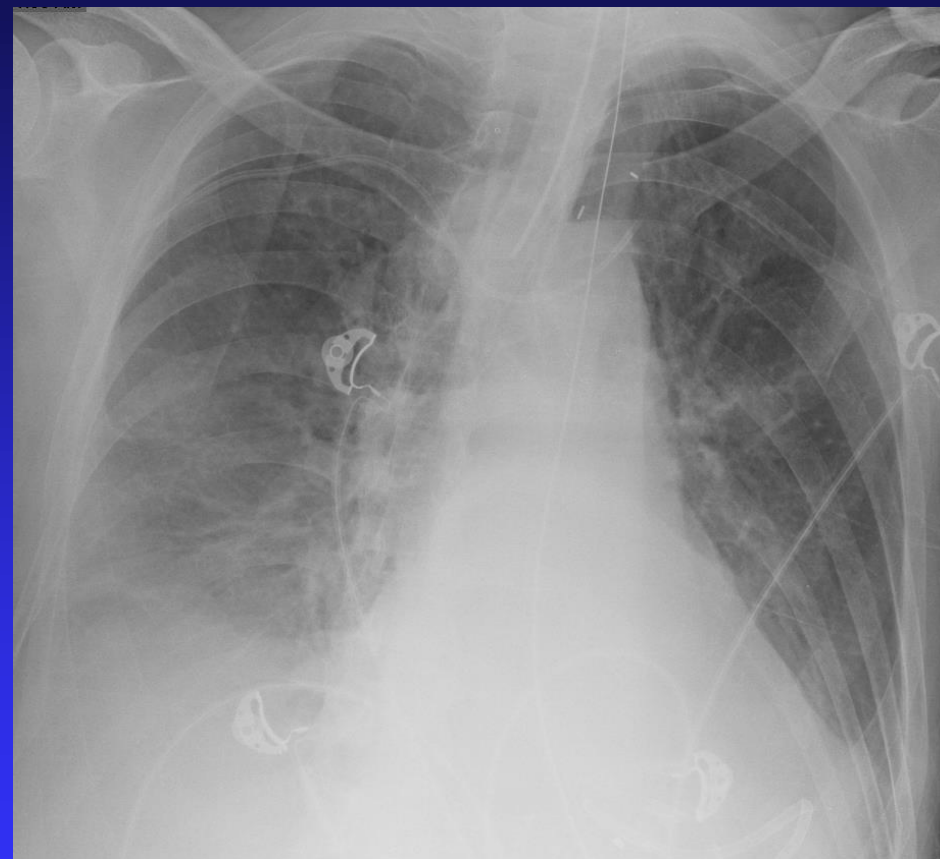
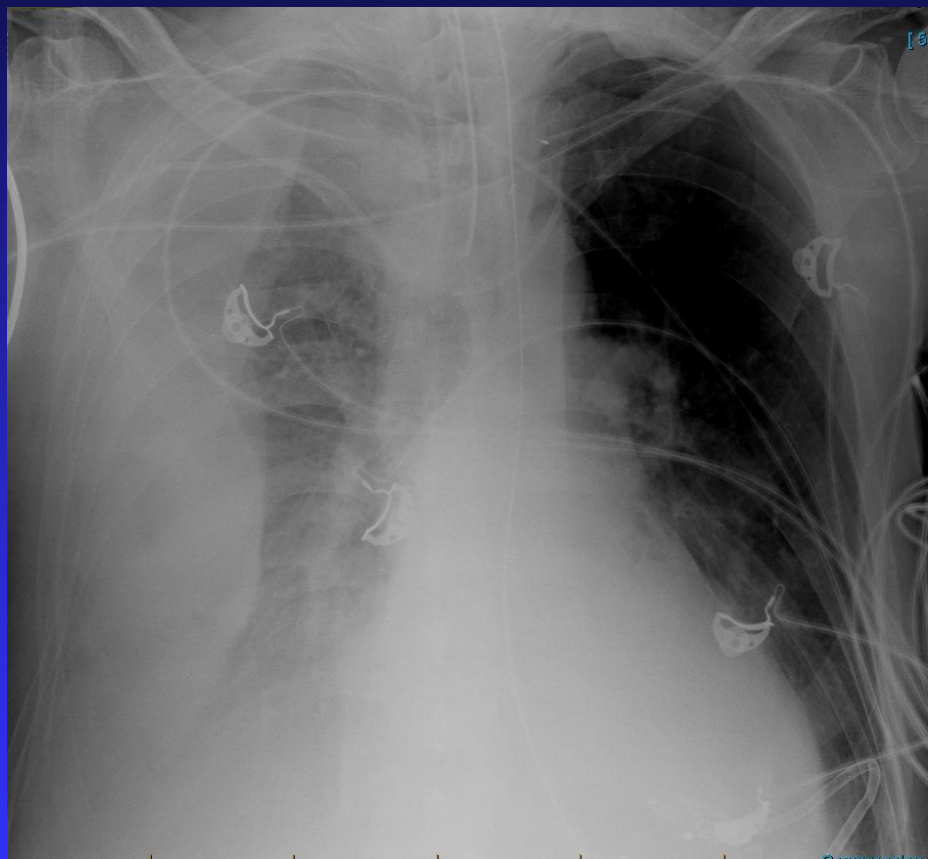
No sign of active bleeding

Follow-up CT on POD 9 to investigate elevated WBC count



- CT shows multiple fluid collections
- Abdominal exploration and washout of intra-abdominal abscess was subsequently performed

X-ray on POD 12 to investigate sudden hypoxia



One day earlier

Call from the ICU team – patient is
bleeding and CT shows
pseudoaneurysm. Can you please
embolize the pseudoaneurysm?

CECT performed on POD 12



Fig 1



Fig 2

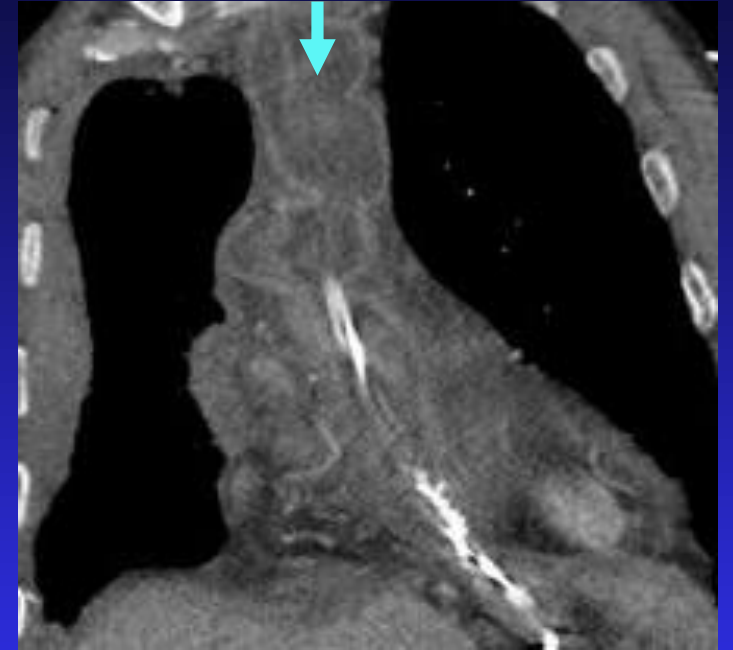
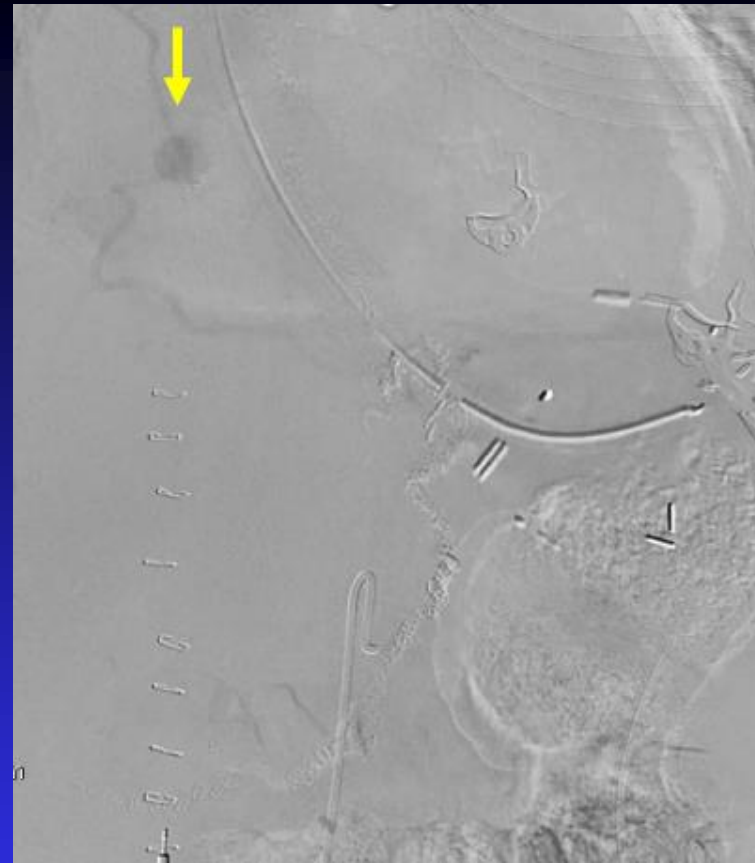
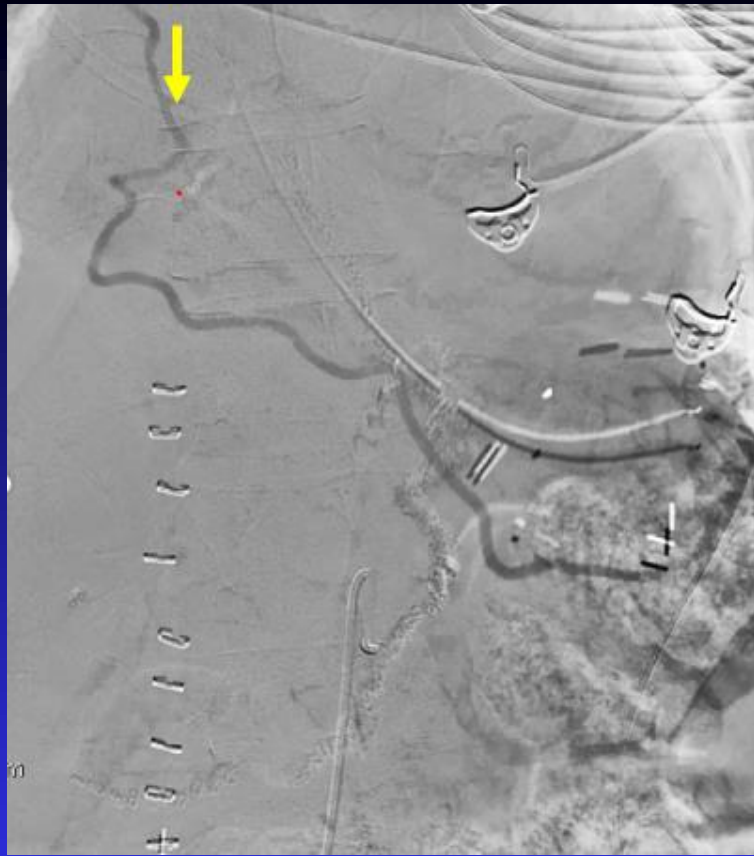


Fig 3

Fig 1 - Axial CT image shows anterior mediastinal pseudoaneurysm (yellow arrow)

Fig 2 - Coronal CT image shows anterior mediastinal pseudoaneurysm (red arrow)

Fig 3 - Coronal CT image shows colonic interposition (blue arrow)

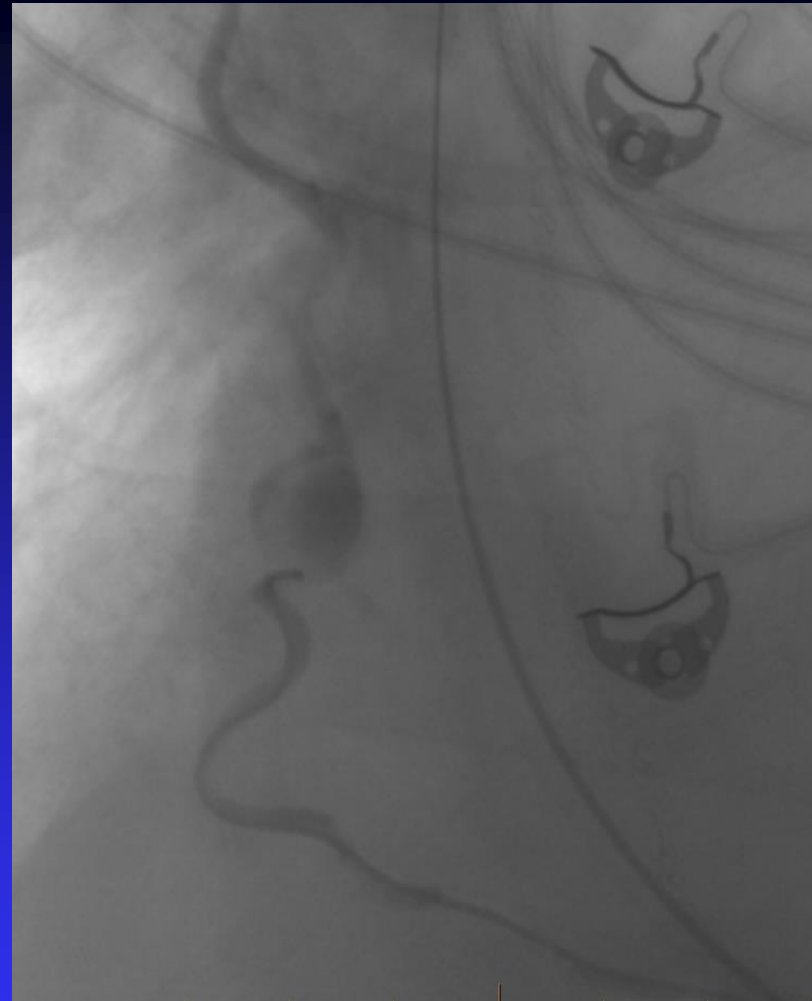


Splenic artery angiogram demonstrated collaterals to a large left colic artery which had been pulled up into the thorax secondary to the colonic interposition. A pseudoaneurysm (yellow arrow) was confirmed arising from a tiny branch of the transposed left colic artery



Treatment options

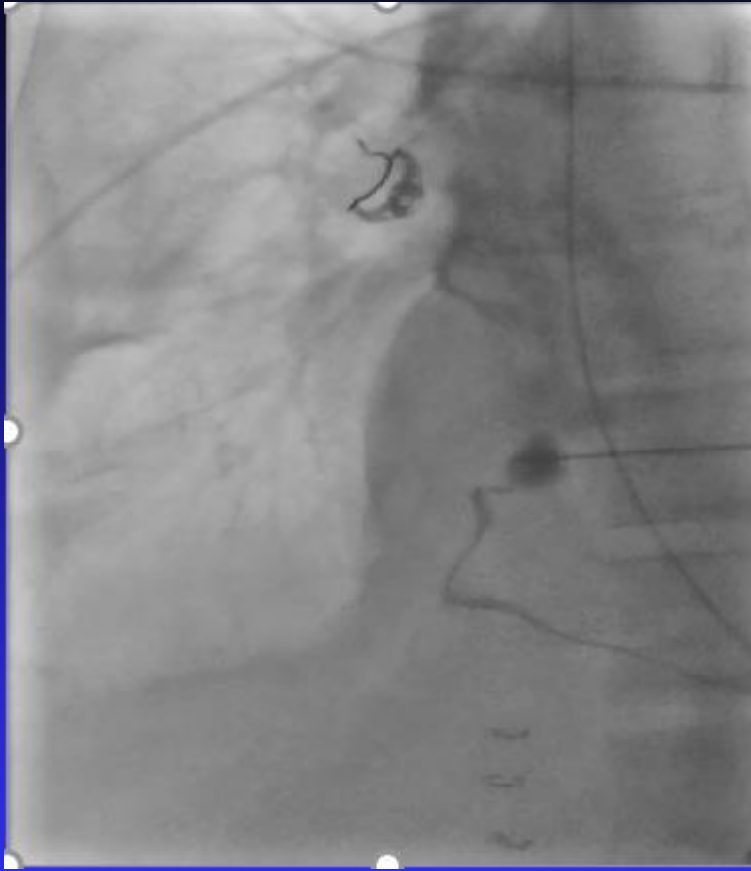
1. Embolize the parent artery with coils or glue and sacrifice the colonic interposition
2. Covered stent or stent-assisted coil embolization – non-favourable anatomy
3. Direct percutaneous access of pseudoaneurysm



Microcatheter was placed close to the pseudoaneurysm and almost occlusive

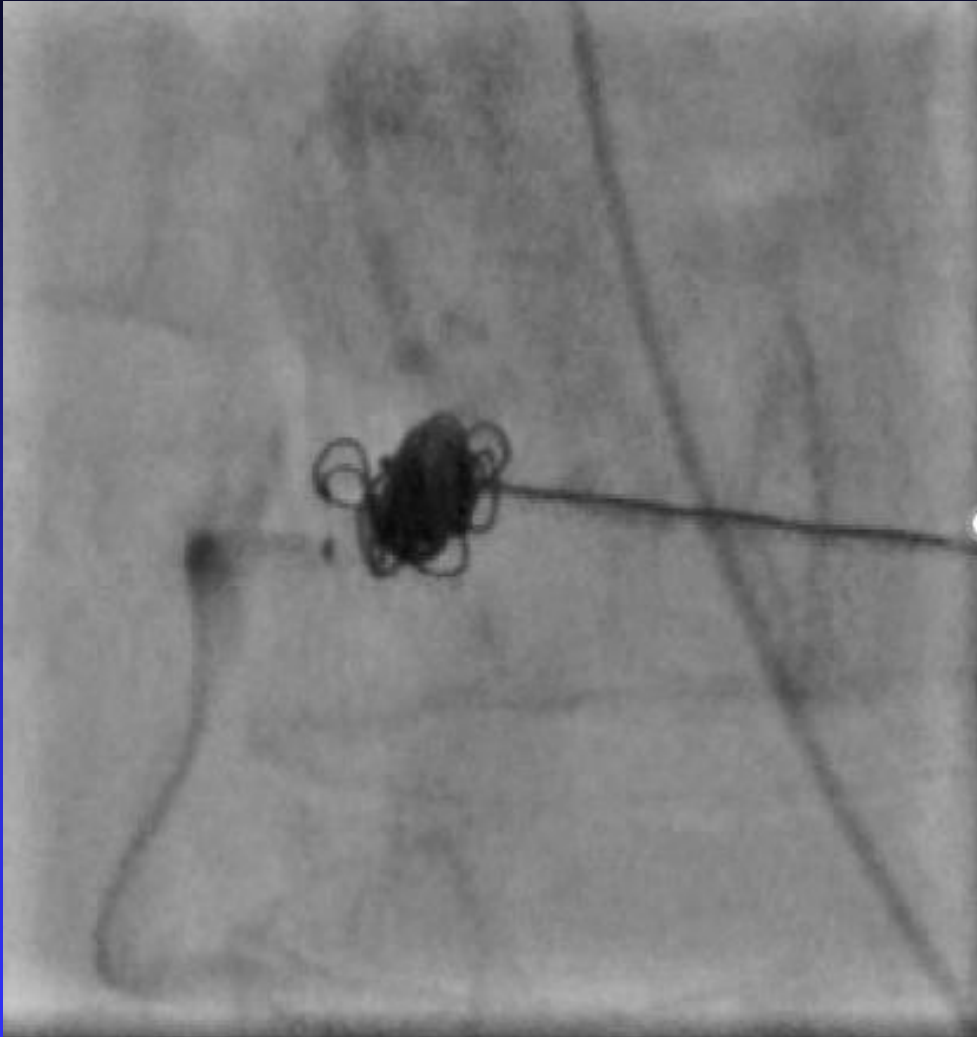


A 21g needle was advanced into the pseudoaneurysm percutaneously under fluoroscopic guidance and position was confirmed by injection of contrast



Needle position was again confirmed by fluoroscopy using different projections

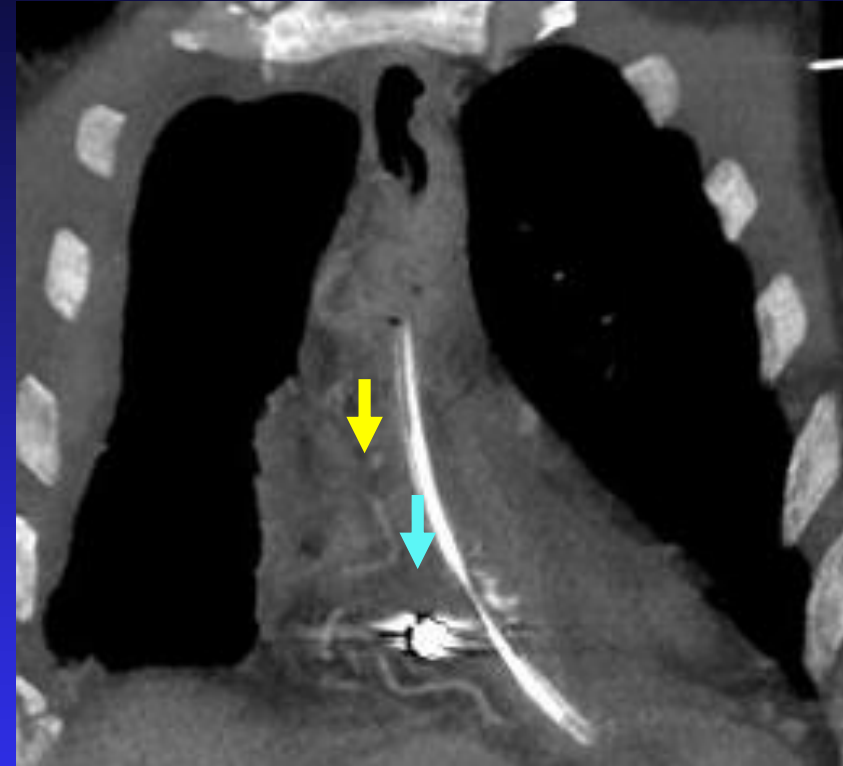
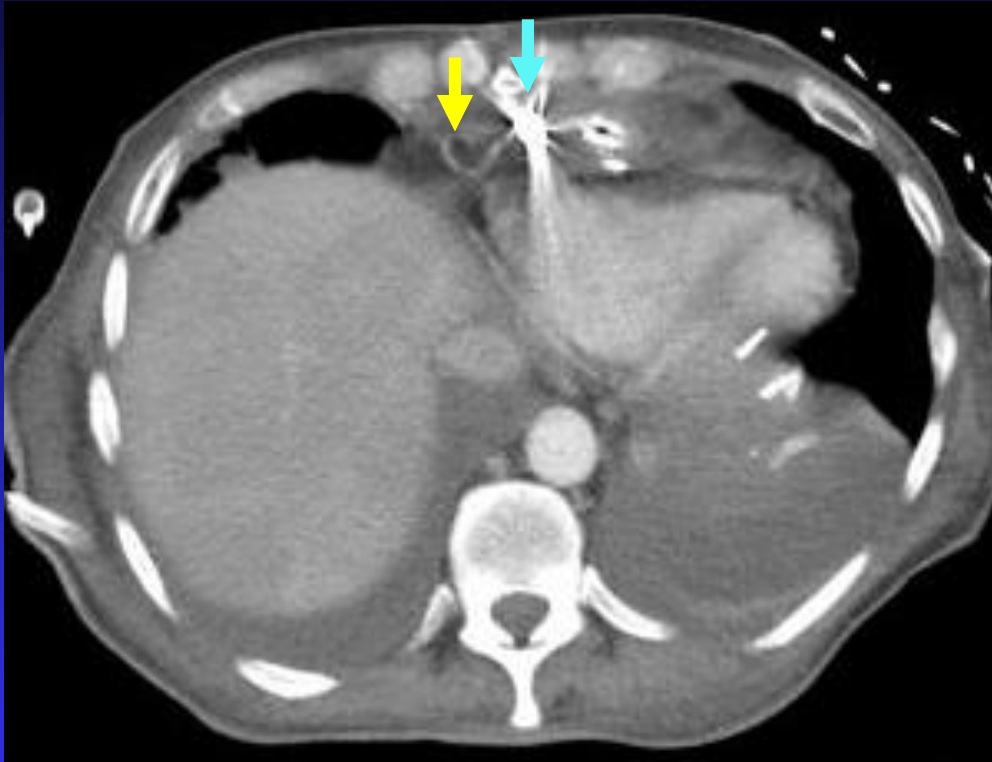
Embolization was performed with coils via needle (one 4 mm x 4 cm and three 6 mm x 14 cm)





Follow up angiogram shows no flow in pseudoaneurysm (yellow arrow) and patency of parent artery (blue arrow)

Follow-Up CT



Axial CT image shows coils (blue arrow) and patent parent artery (yellow arrow)
Coronal CT image shows coils (blue arrow) and patent parent artery (yellow arrow)

CLINICAL FOLLOW-UP

Patient survived 4 months following the embolization and died of unrelated causes (septicaemia requiring multiple abdominal washes for loculated collections)

DISCUSSION

- The use of this direct stick approach was necessary to prevent damage to the parent colic artery, which was critical to avoid ischemia of the interposed colonic loop
- Atypical techniques such as these increase the armamentarium of interventional radiologists

TAKE-HOME POINTS

Direct puncture and percutaneous coil embolization of a pseudoaneurysm can be safely performed in situations where the accessibility and anatomy of the vessel is not favourable for transcatheter embolization.