CIRA Case of the Month

Case courtesy of Drs. Philippe Boisvert and Andrew J. Benko

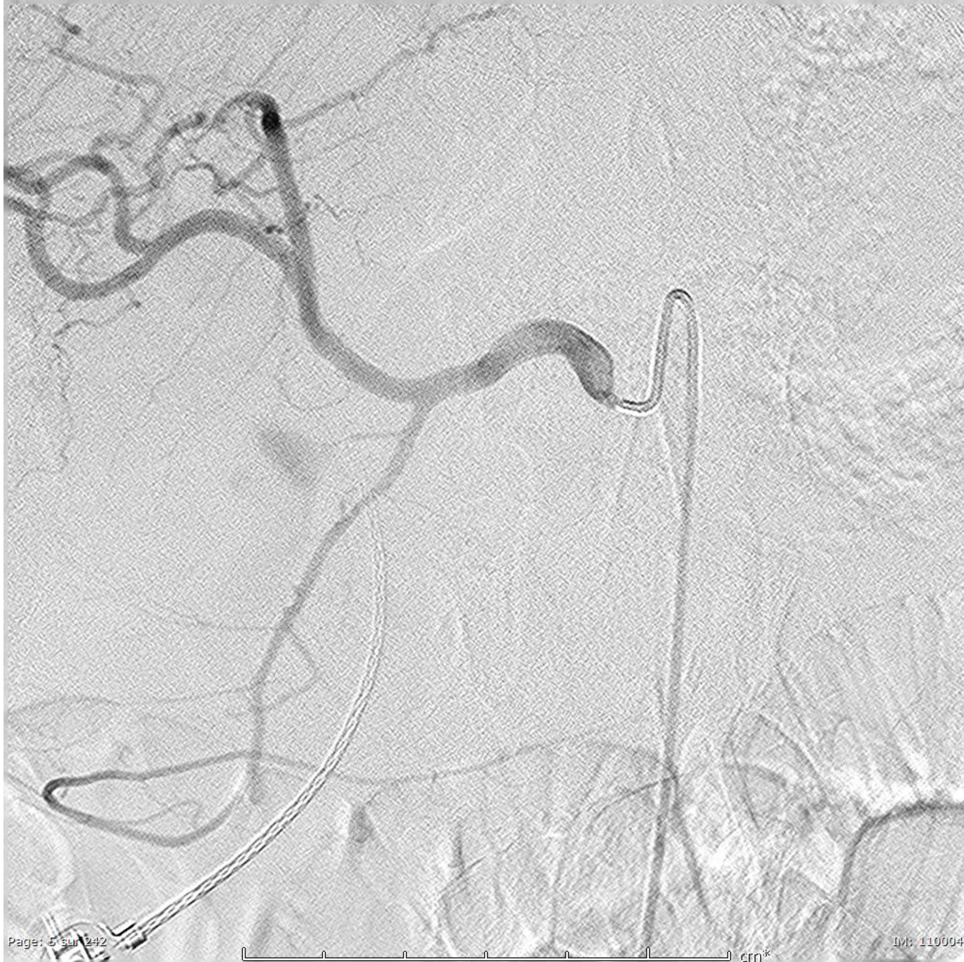
Case presentation

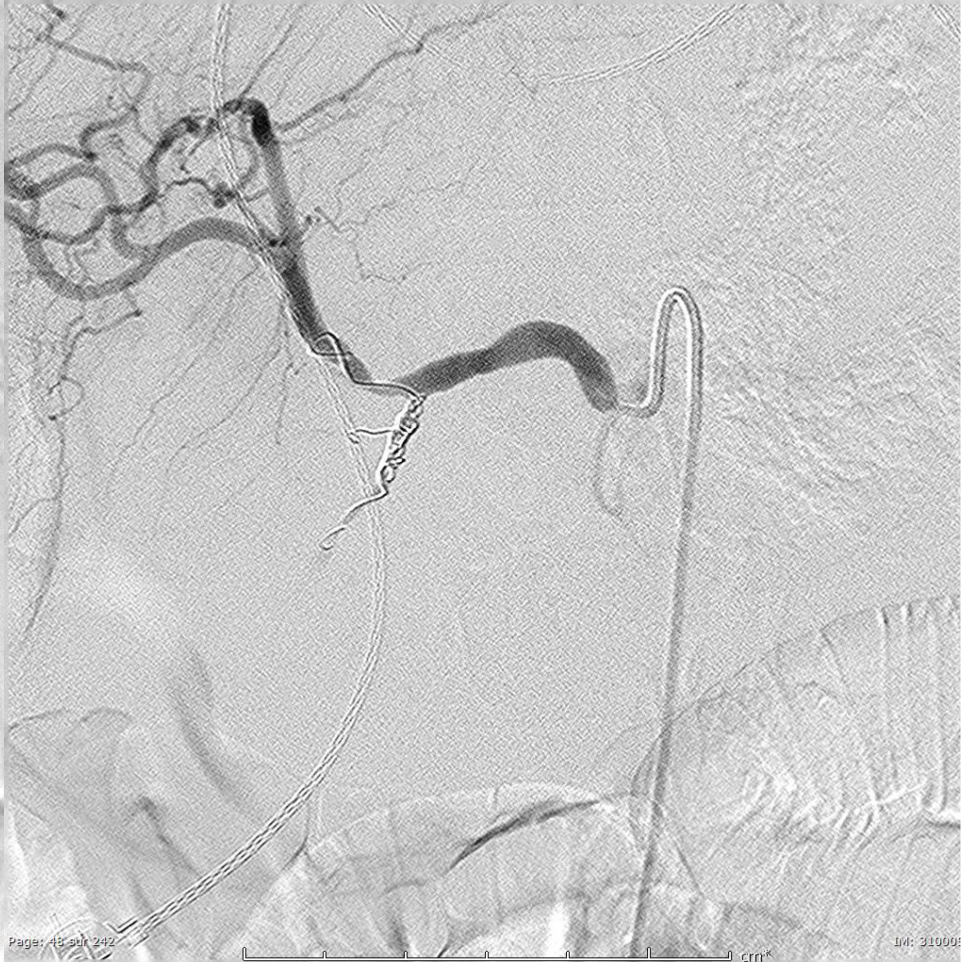
- 65 year old male
- Past medical history
  - Schizoaffective disorder
- Currently hospitalised
  - Left MCA stroke
  - ASA treatment
  - Iron deficiency anemia: Hb 64

Case presentation

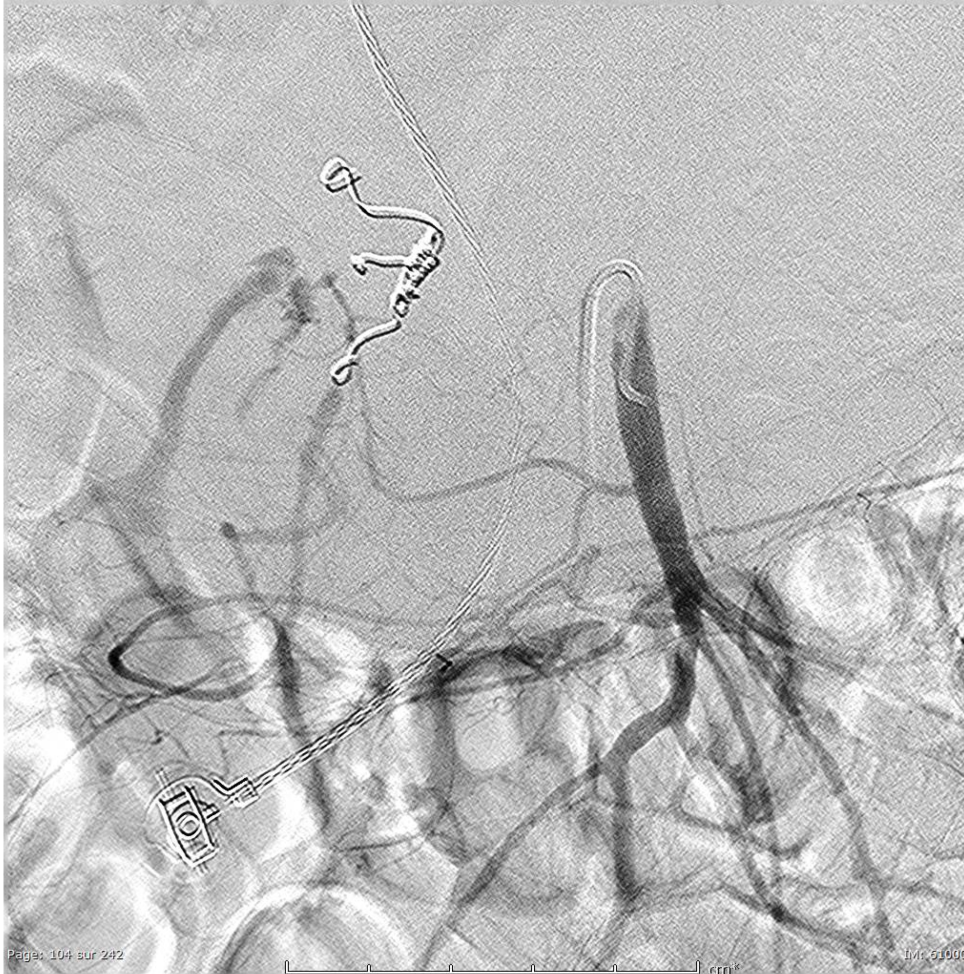
- Hematemesis on day 2; 150 cc
  - Good response to volume and pantoloc IV
- Gastroscopy
  - 2 ulcers
  - Massive haemorrhage during clipping of an exposed vascular structure
  - No visibility; no possible endoscopic treatment
- Vasopressor treatment started; shock state
- Massive transfusion protocol started

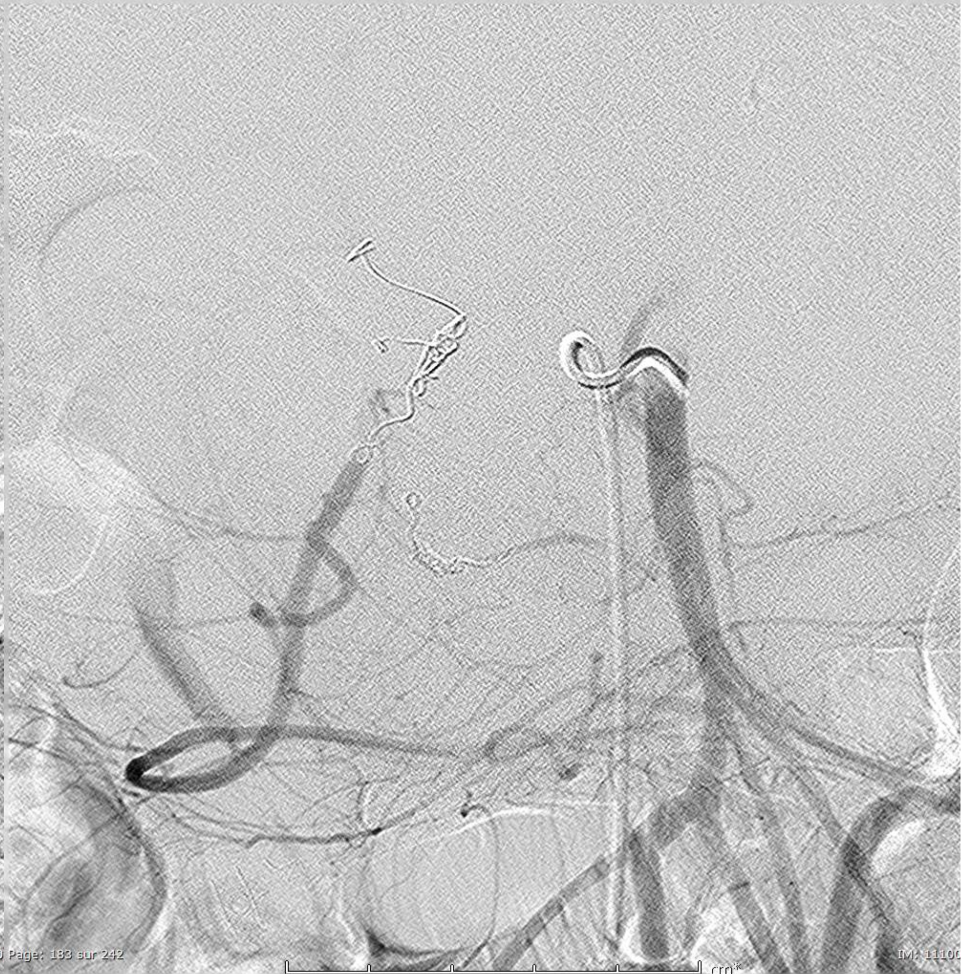
Celiac angiography





SMA angiography





Findings and treatment

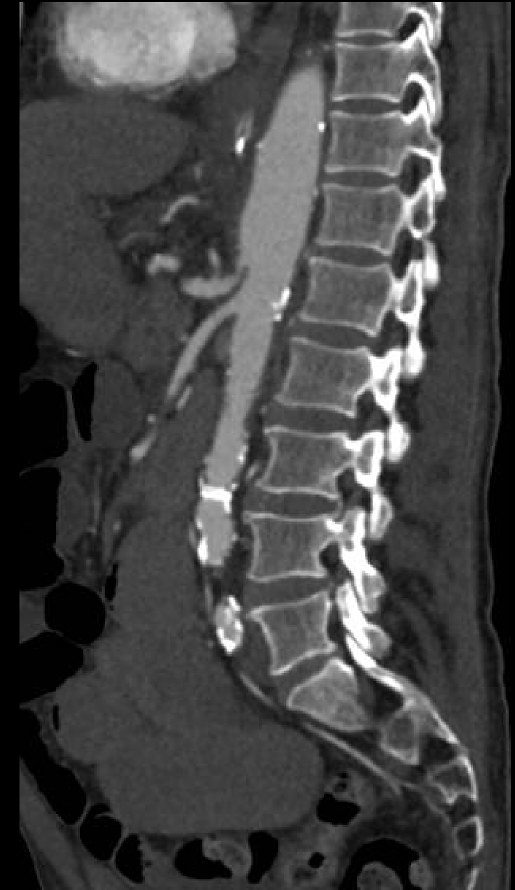
- Celiac angio:
  - Active extravasation of contrast from a branch, presumed terminal, of the GDA
  - Coiling of the extravasating vessel
- SMA angio:
  - Persistence of extravasation; embolized vessel actually a posterior pancreaticoduodenal arcade
  - Pseudovein sign
  - Coiling of the arcade
- Adequate control with embolization of the arcade
- Closure with angioseal

Discussion of management

- Endoscopy remains 1st line treatment for UGIB
- Angiography:
  - Technical success: 93%   Clinical success: 67%
  - Indicated if failure to control bleeding at endoscopy
  - GDA or left gastric embolization according to bleeding source
  - If no bleeding identified; empiric embolization possible
  - Gelfoam sandwich may be useful in patients with coagulopathy
    - cost reduction

Discussion

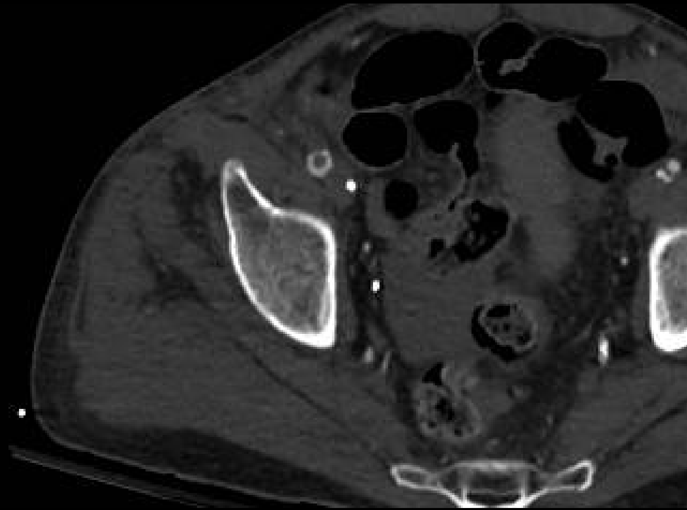
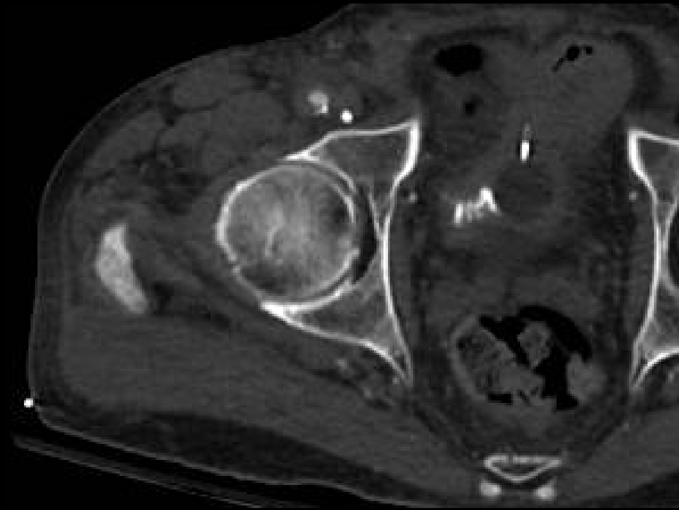
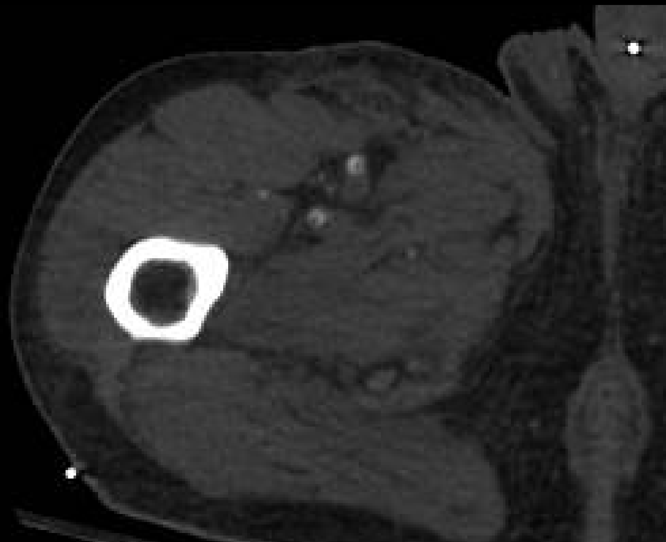
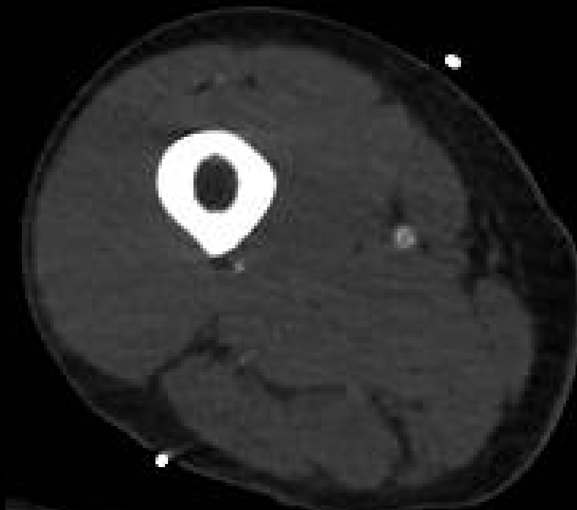
- Pancreaticoduodenal arcades are the most common collateral pathway for the SMA in celiac axis stenosis
- Posterior PD arcade is formed by the retroduodenal artery, usually the first branch of the GDA, joining with one inferior pancreaticoduodenal artery
- 1-4 anterior or posterior arcades can be observed
- Mandatory to do the SMA arteriogram in GDA embolization



Acute right limb ischemia

- Within 30 minutes post-procedure developed right LL ischemia
- Occlusion of right CFA suspected
  - Complication of closure device
- CT angiogram of lower limbs performed

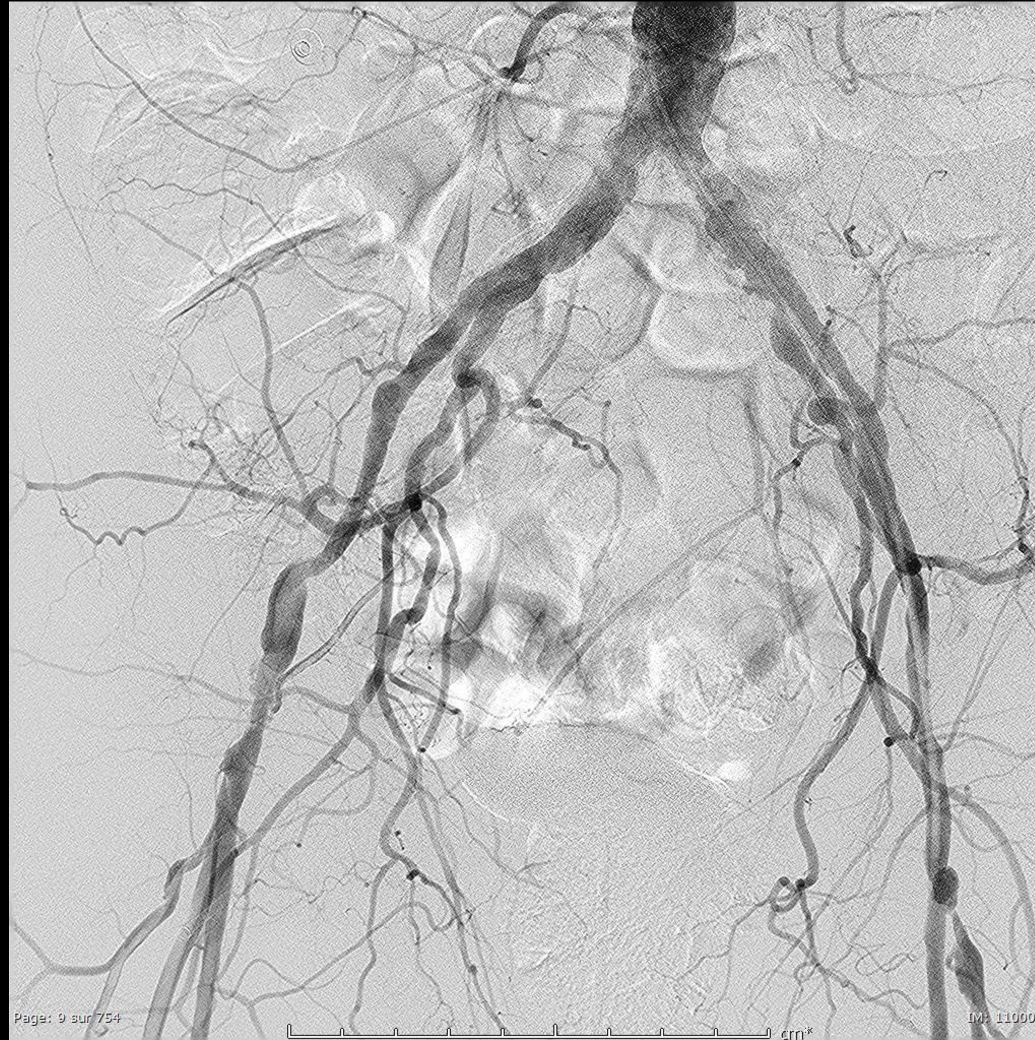
CT angiogram

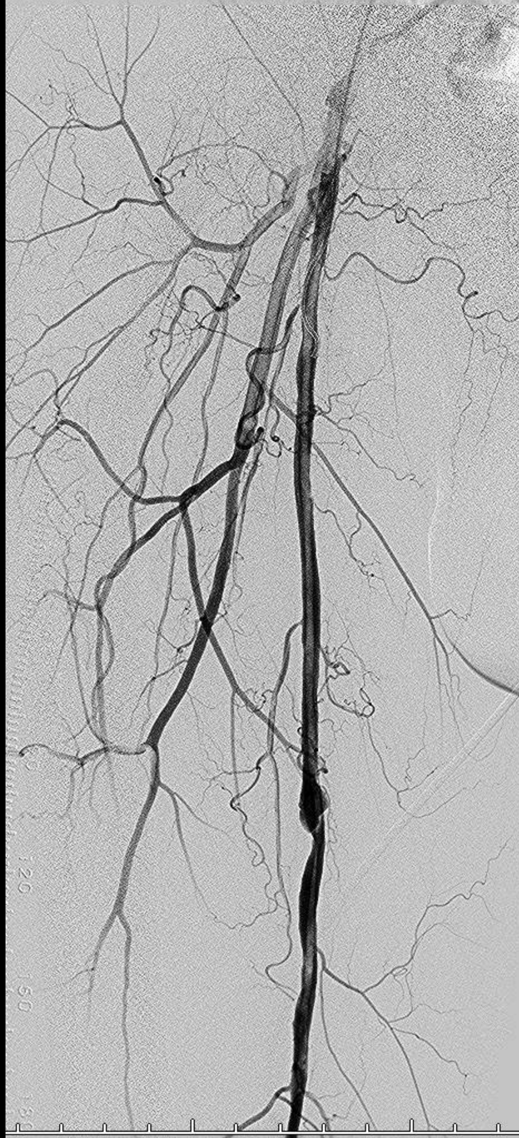
CT findings

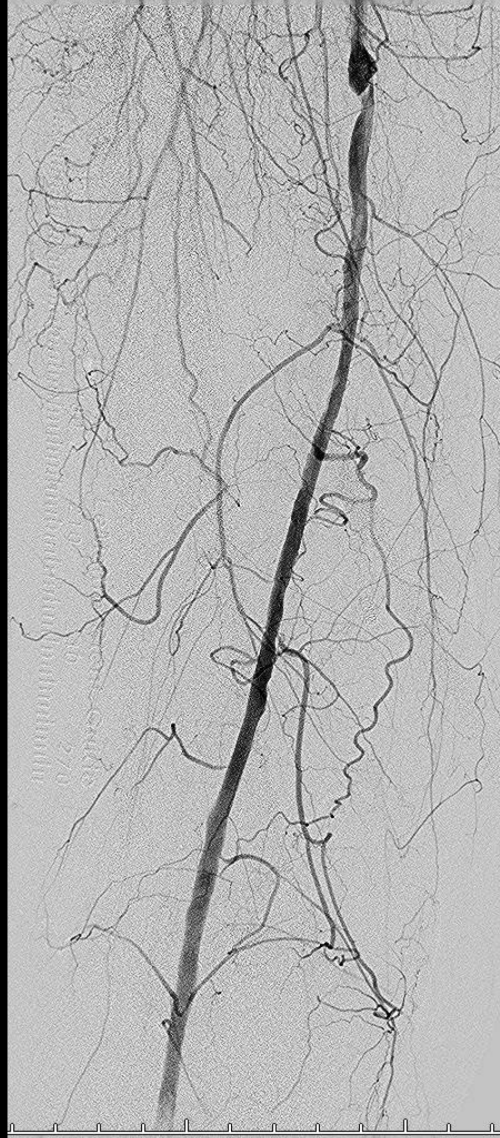
- Extensive thrombosis
  - External iliac artery
  - Profunda and superficial femoral artery
  - No thrombus in common femoral artery
- Unclear etiology; likely multifactorial: procoagulant state, underlying diseased artery, hypotension

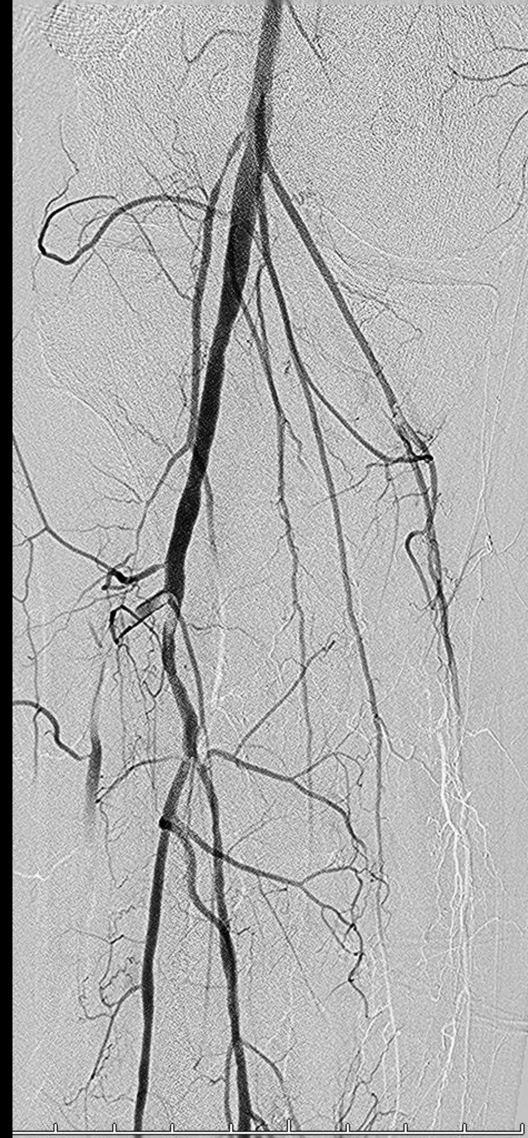
Angiography



Angiography



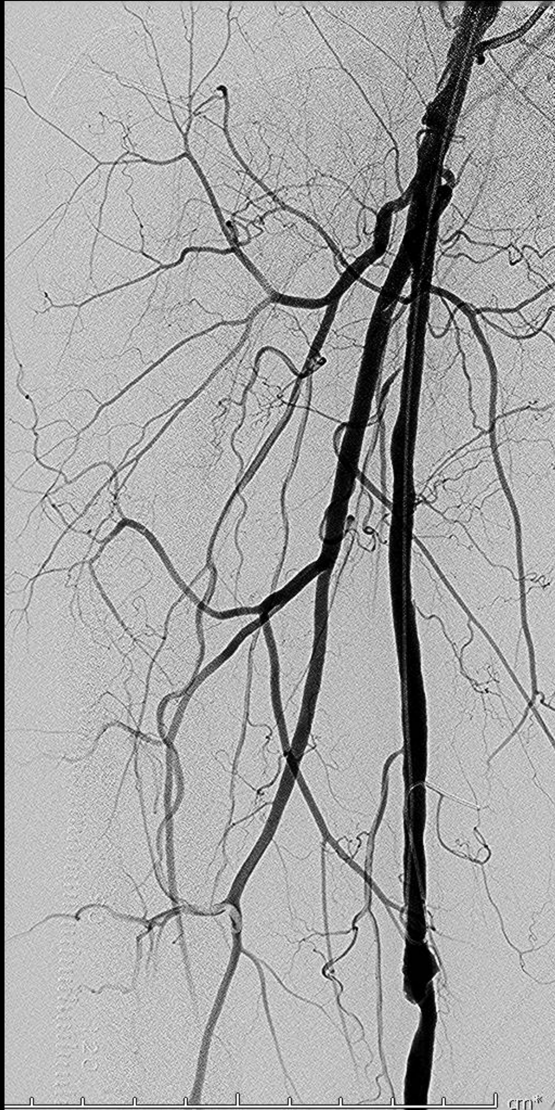




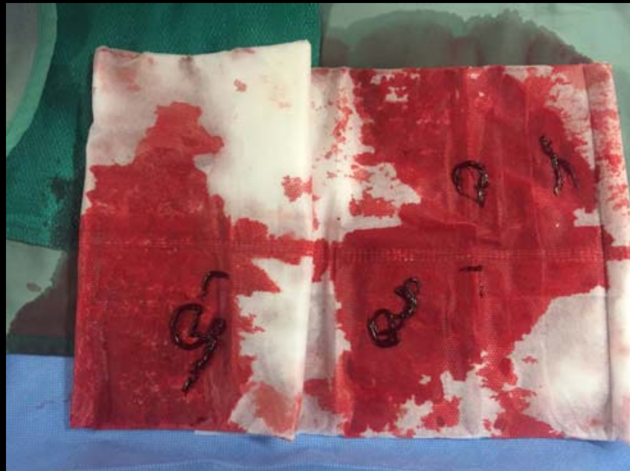
Procedure

- Thromboaspiration with 7F sheath
  - Sheath with removable valve ex. Destination (Terumo) or Flexor shuttle (Cook)
- Treatment of underlying stenosis of the external iliac artery and CFA

Post treatment



Thrombus

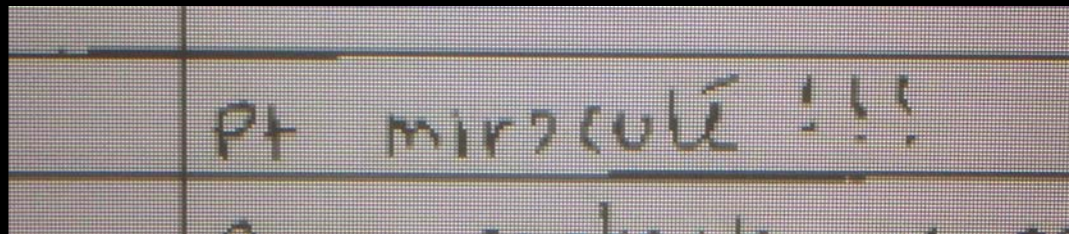


Discussion

- Large thrombus burden
- Contraindication to thrombolysis
- Percutaneous aspiration thromboembolectomy
  - In our experience highly effective at restoring patency
  - Can in some cases prevent the use of thrombolysis
  - Can be used BTK

Clinical course

- Recovered uneventfully with no rebleeding
- Extubation the following day
- Discharged to rehabilitation unit 2 weeks later (MCA stroke)



Takeaway message

- Duodenopancreatic arcades can cause backdoor bleeding post GDA embolization; always confirm success with SMA angio
- Thromboaspiration offers quick reperfusion with minimal costs

References

Song SY, Chung JW, Kwon JW et al., Collateral Pathways in Patients with Celiac Axis Stenosis: Angiographic-Spiral CT correlation, Radiographics 2002; 22:881-893.

Nilesh H. Patel. Quality Improvement Guidelines for Percutaneous Management of Acute Lower Extremity Ischemia*, J Vasc Interv Radiol* 2013; 24: 3-15.