

CIRA Case of the Week

September 2016

Case Courtesy of Dr. Michael Connolly
University of Ottawa/The Ottawa Hospital

Background

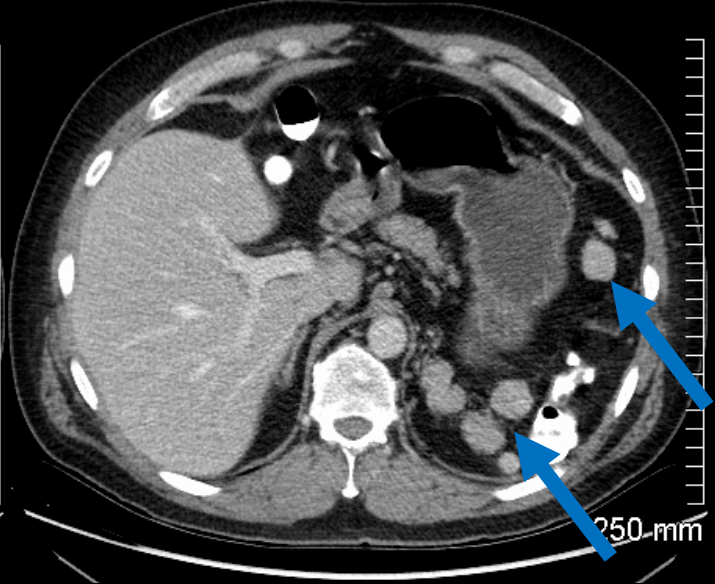
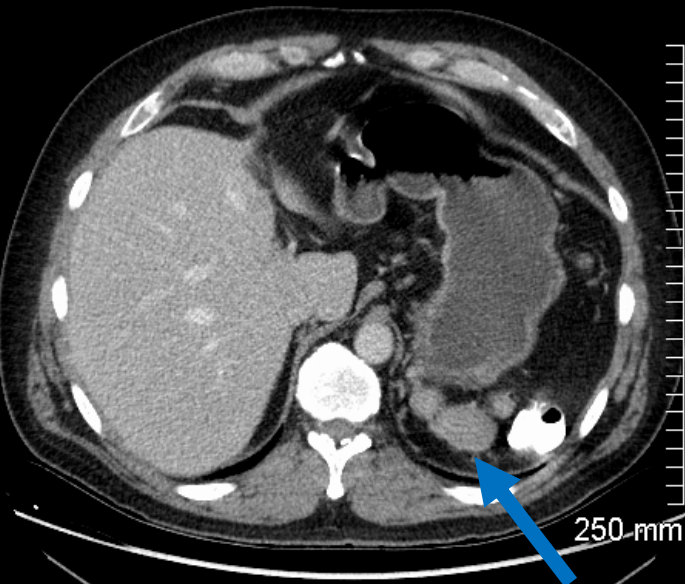
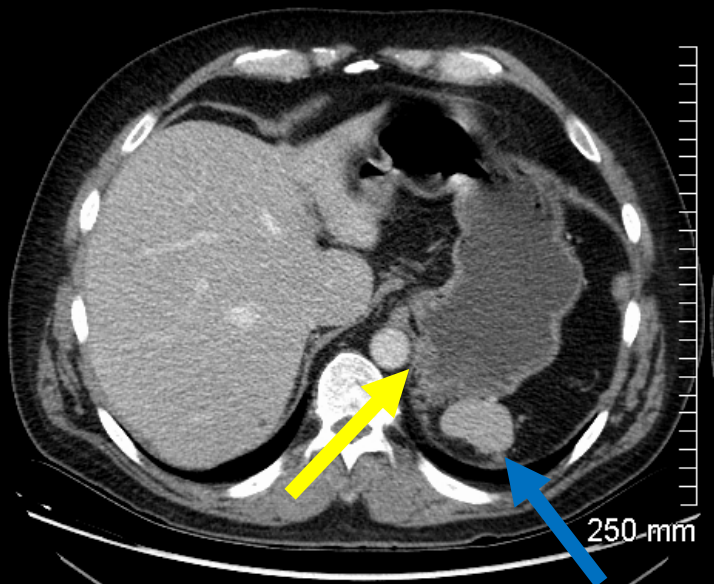
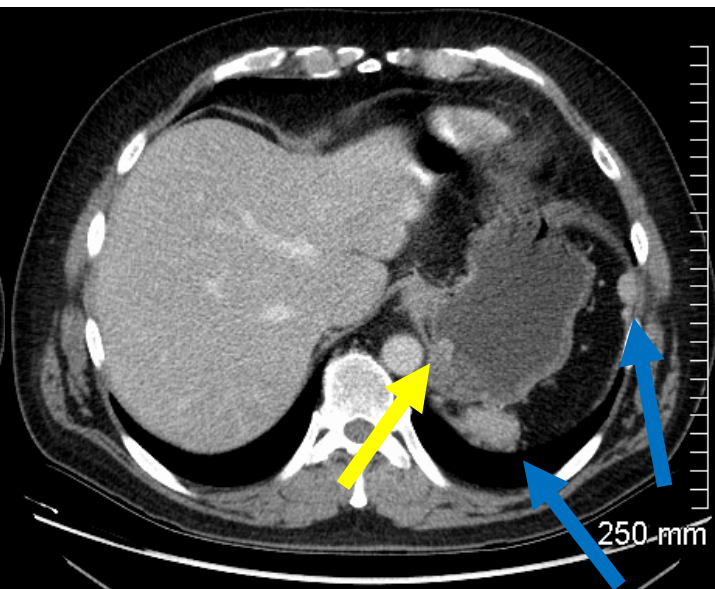
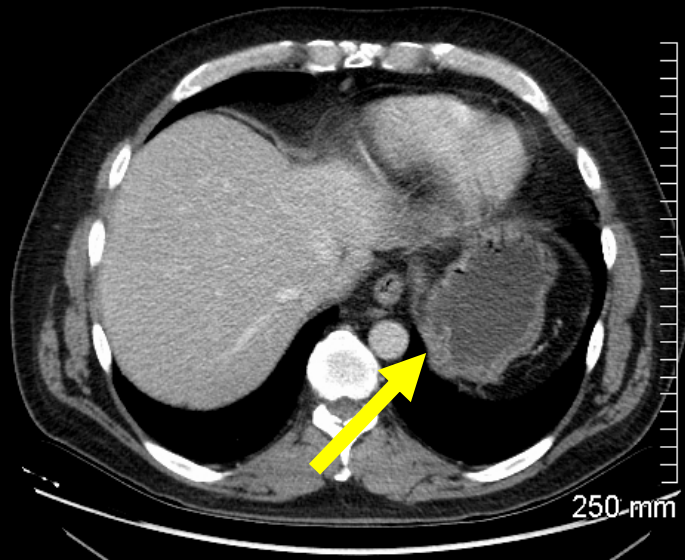
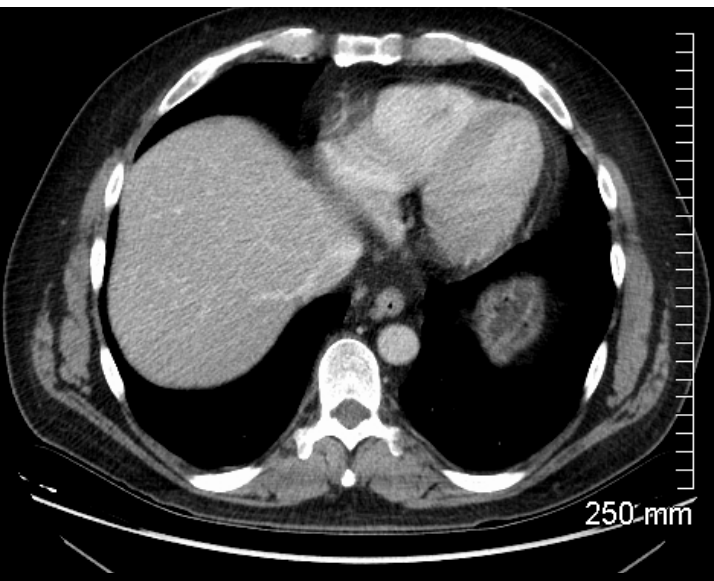
- 52 year old presented to ER with dysphagia and non-cardiac chest pain
- Relevant past medical history: anticoagulation (Dabigatran) therapy for atrial fibrillation and splenectomy at age 14 for traumatic rupture after being kicked by a horse

Investigations

- Outpatient upper endoscopy performed 1 month later identified a Schatzki's ring and small, clean-based gastric ulcers in the gastric fundus which were biopsied
- These demonstrated fundic-type gastric mucosa
- No evidence of malignancy
- Additional biopsies of the gastric mucosa were performed for H. Pylori infection and were negative

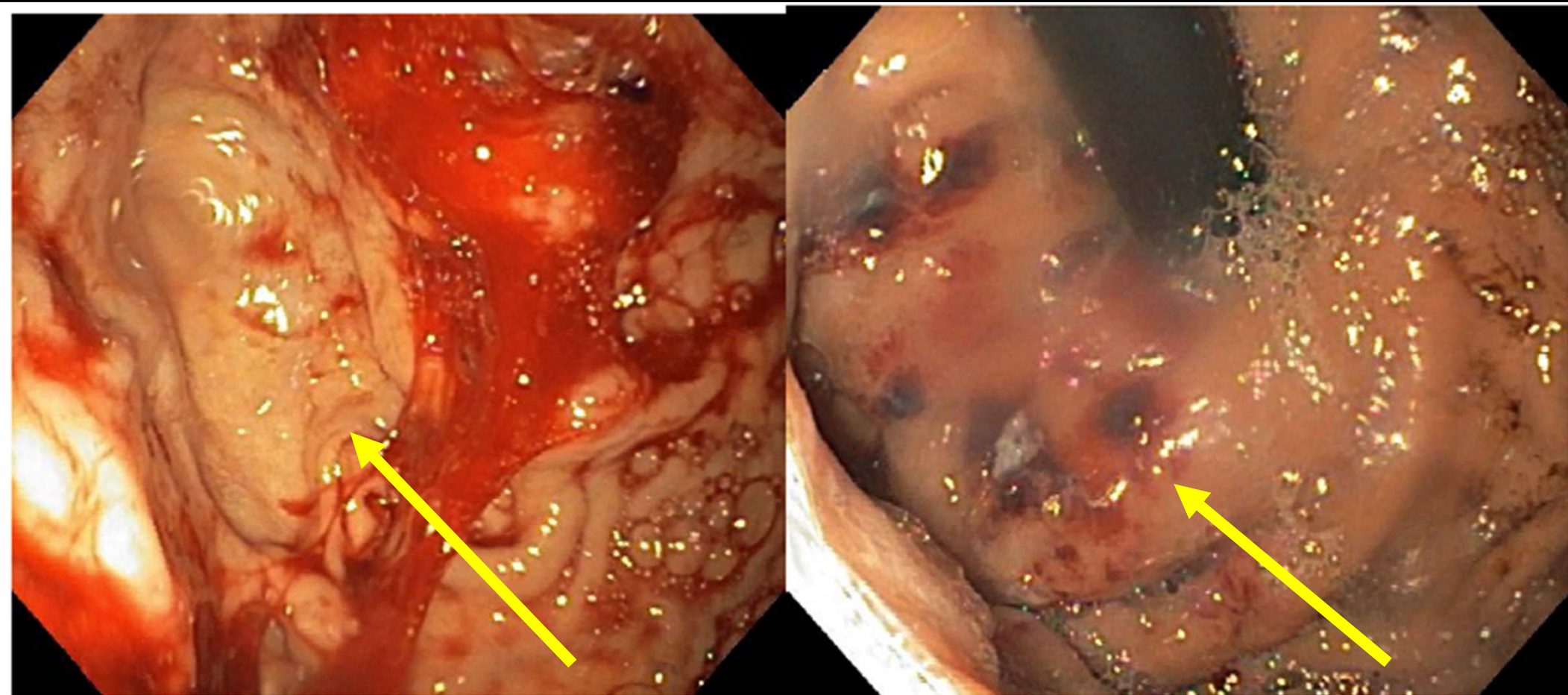
Investigations

- Patient returned to ER 4 days later with melena, presyncope, shortness of breath on exertion and 30 g/L hemoglobin drop
- Initial repeat endoscopy demonstrated adherent clot and oozing from a biopsy site in the gastric fundus which was cauterized
- Dabigatran was held
- Ongoing melena and hemoglobin drop into 70's led to further endoscopy with clot in the fundus and no active bleeding



CT Abdomen

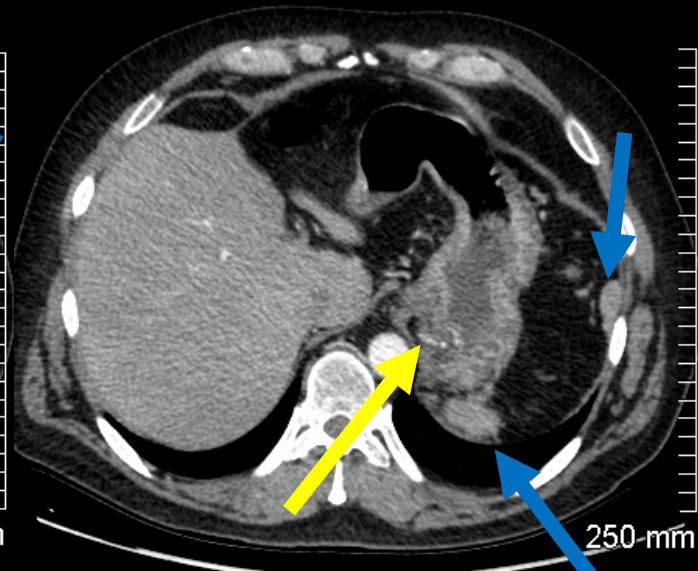
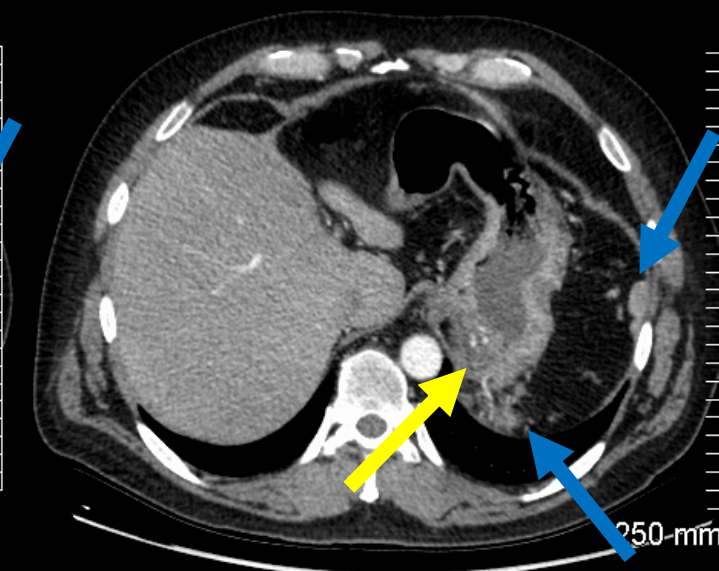
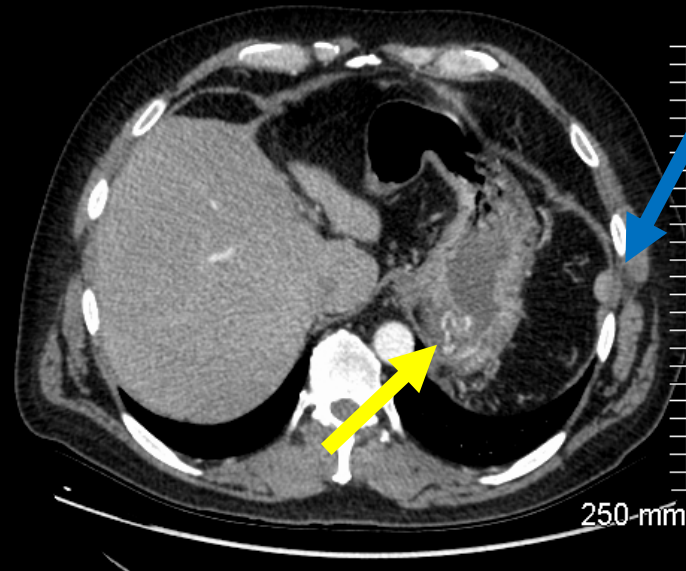
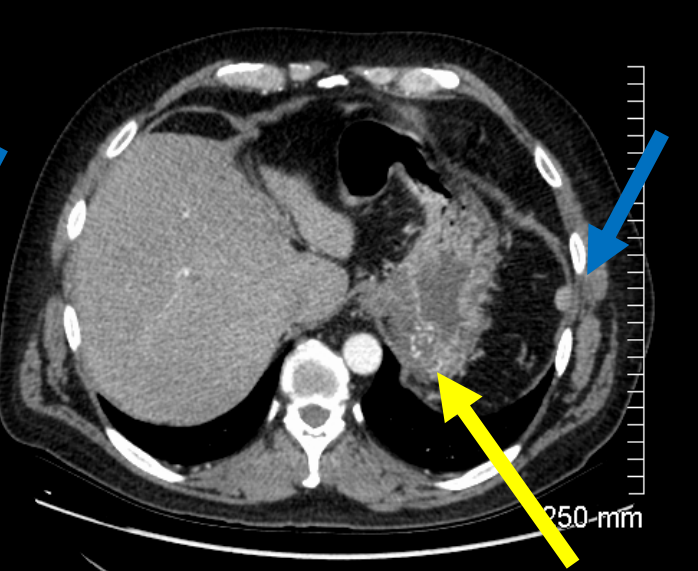
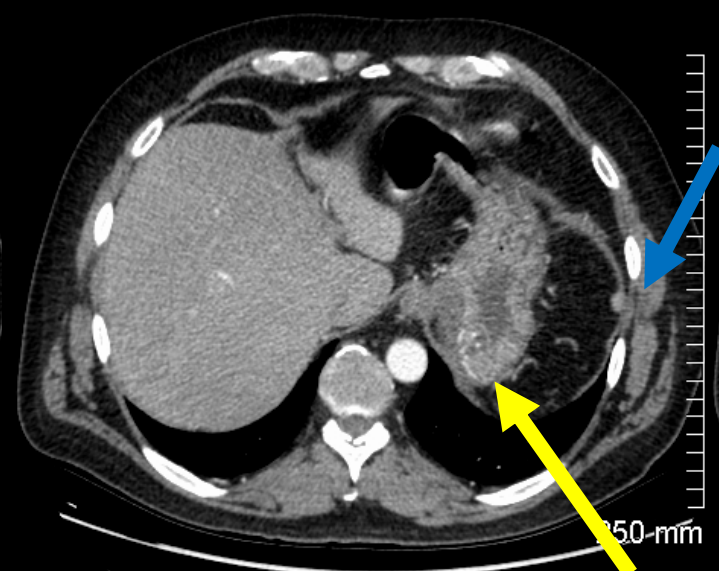
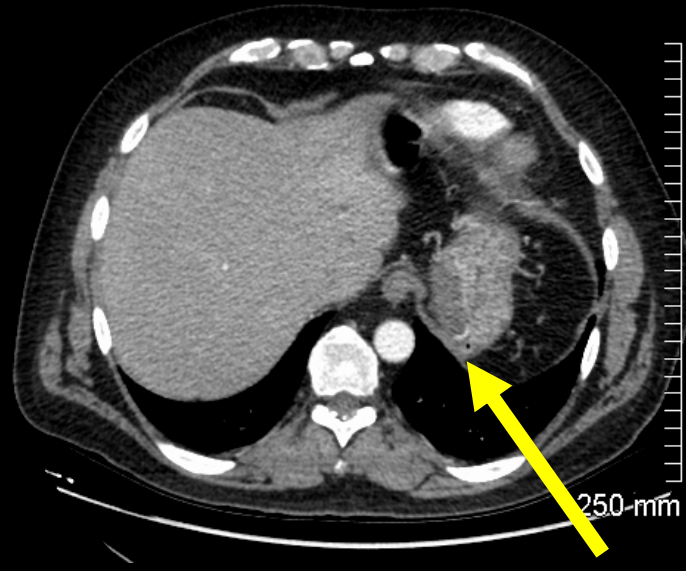
- Multiple soft tissue masses in left upper quadrant consistent with splenosis (blue arrows)
- 1.3 cm vascular focus in gastric fundus (yellow arrow)

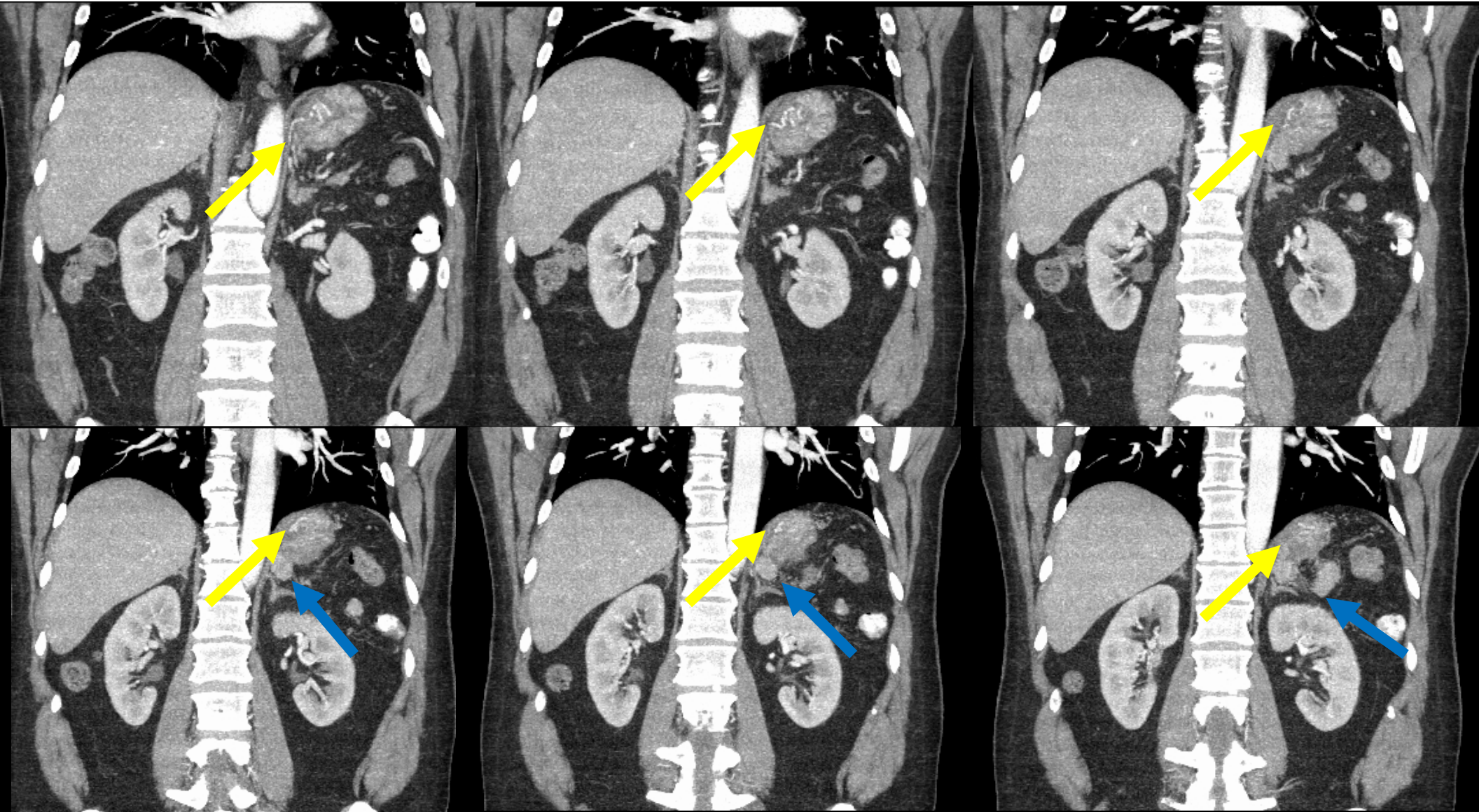


Fundal lesion, post EUS/FNA

Repeat Endoscopy/Endoscopic Ultrasound

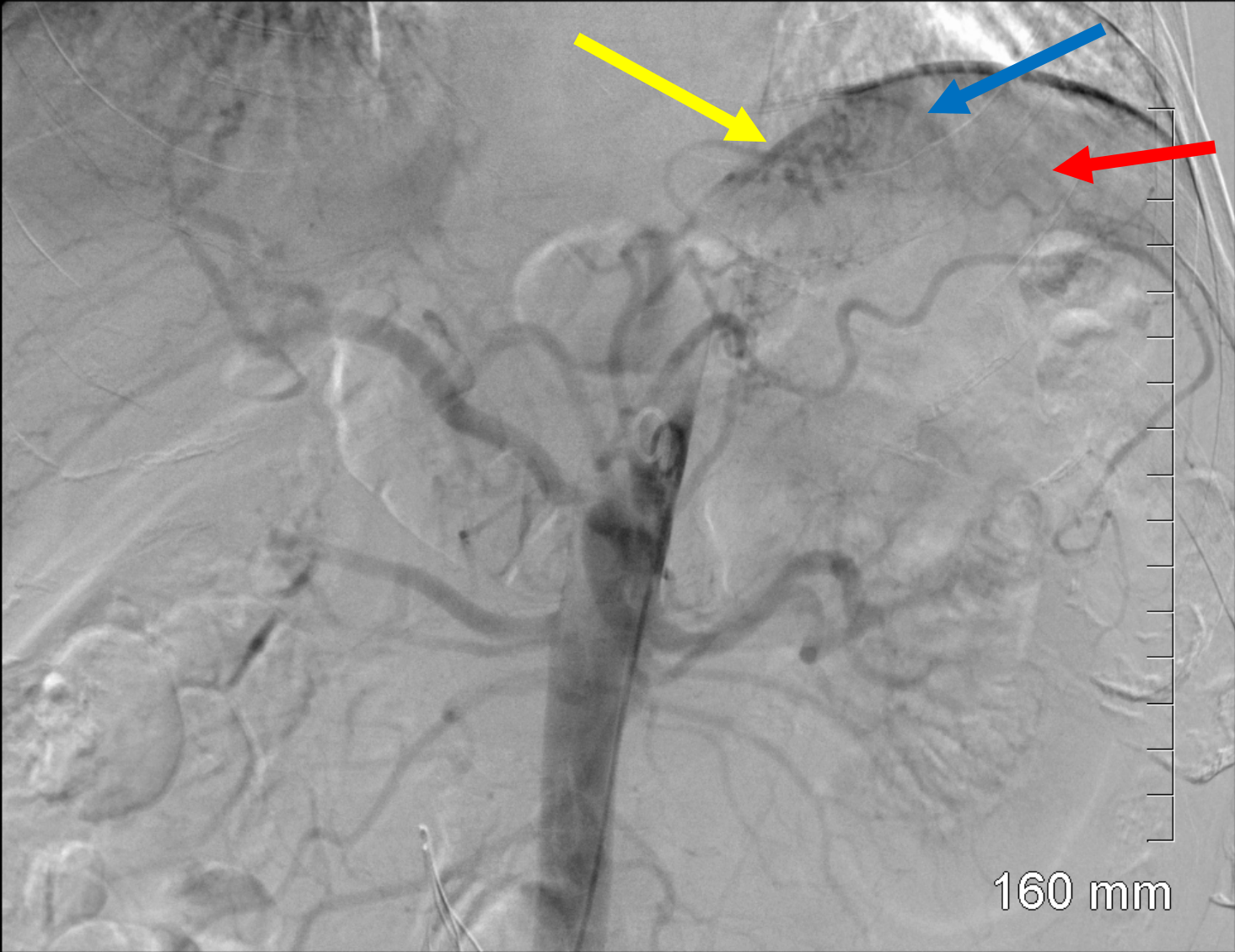
- Fundal submucosal lesion appearing like a varix on endoscopy but negative for flow on endoscopic Doppler ultrasound
- Small perforating vessels were noted in the fundal submucosa
- Fine needle aspiration performed of celiac lymph node and splenule which were negative for malignancy

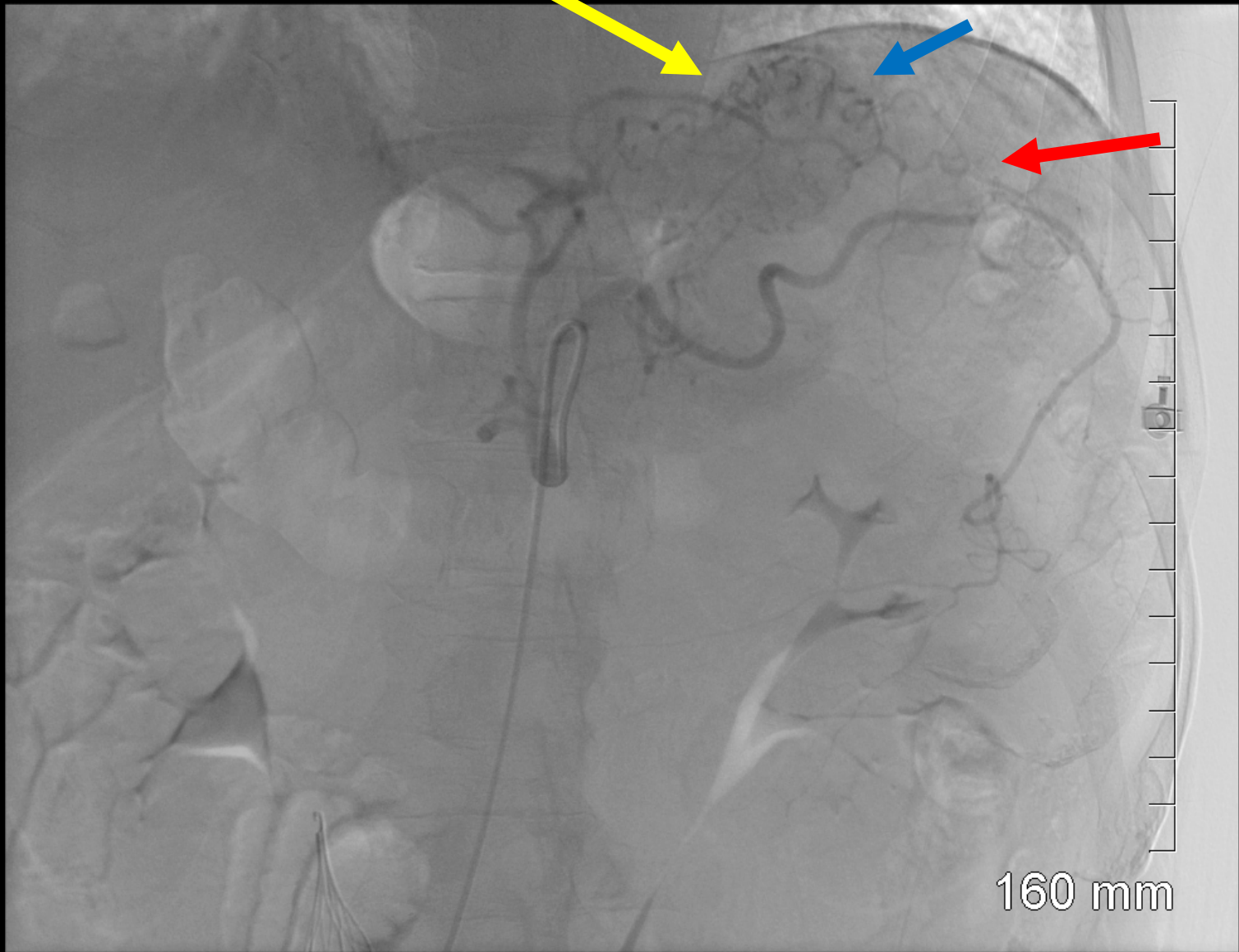


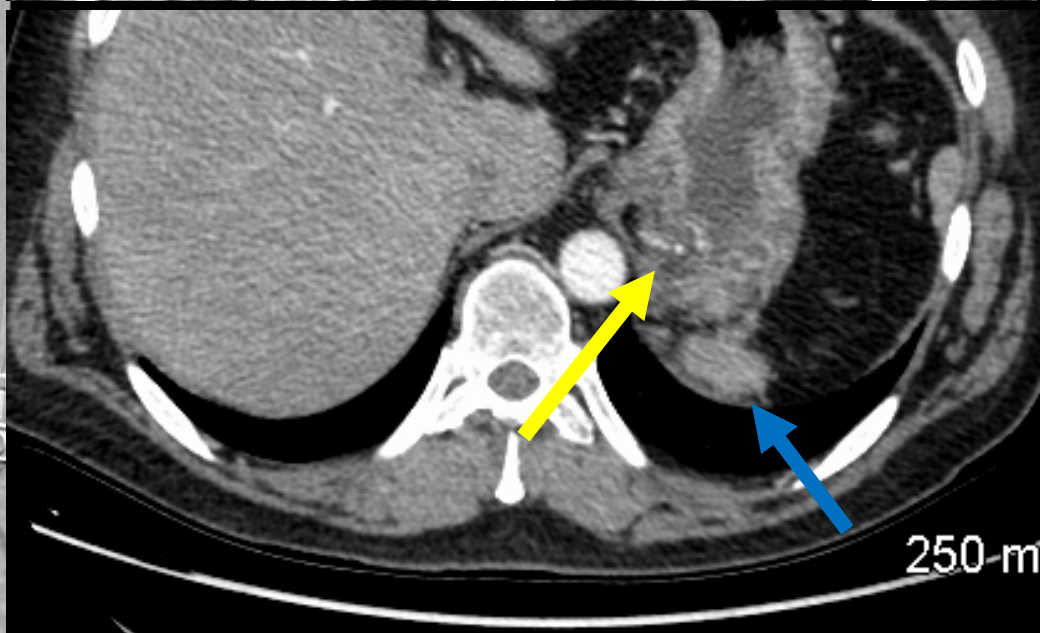
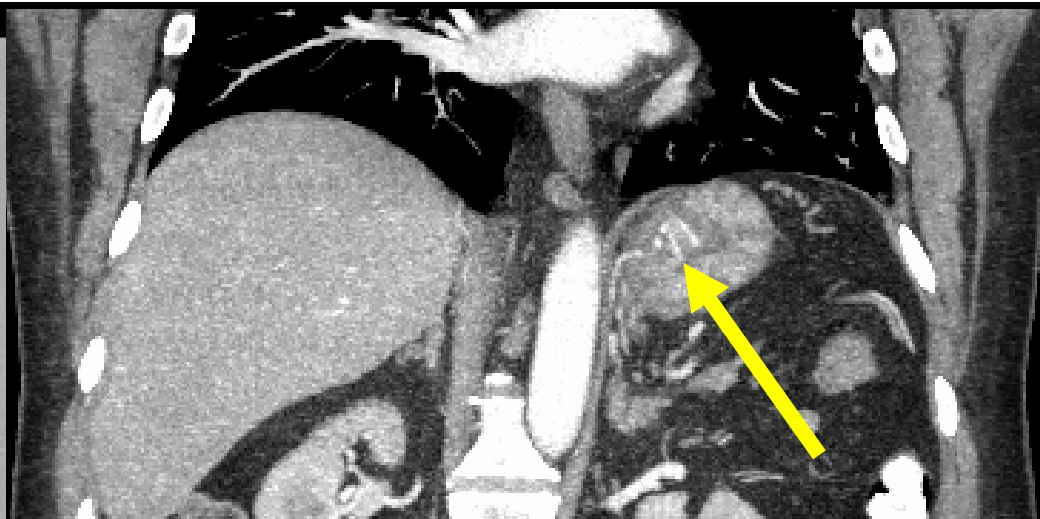
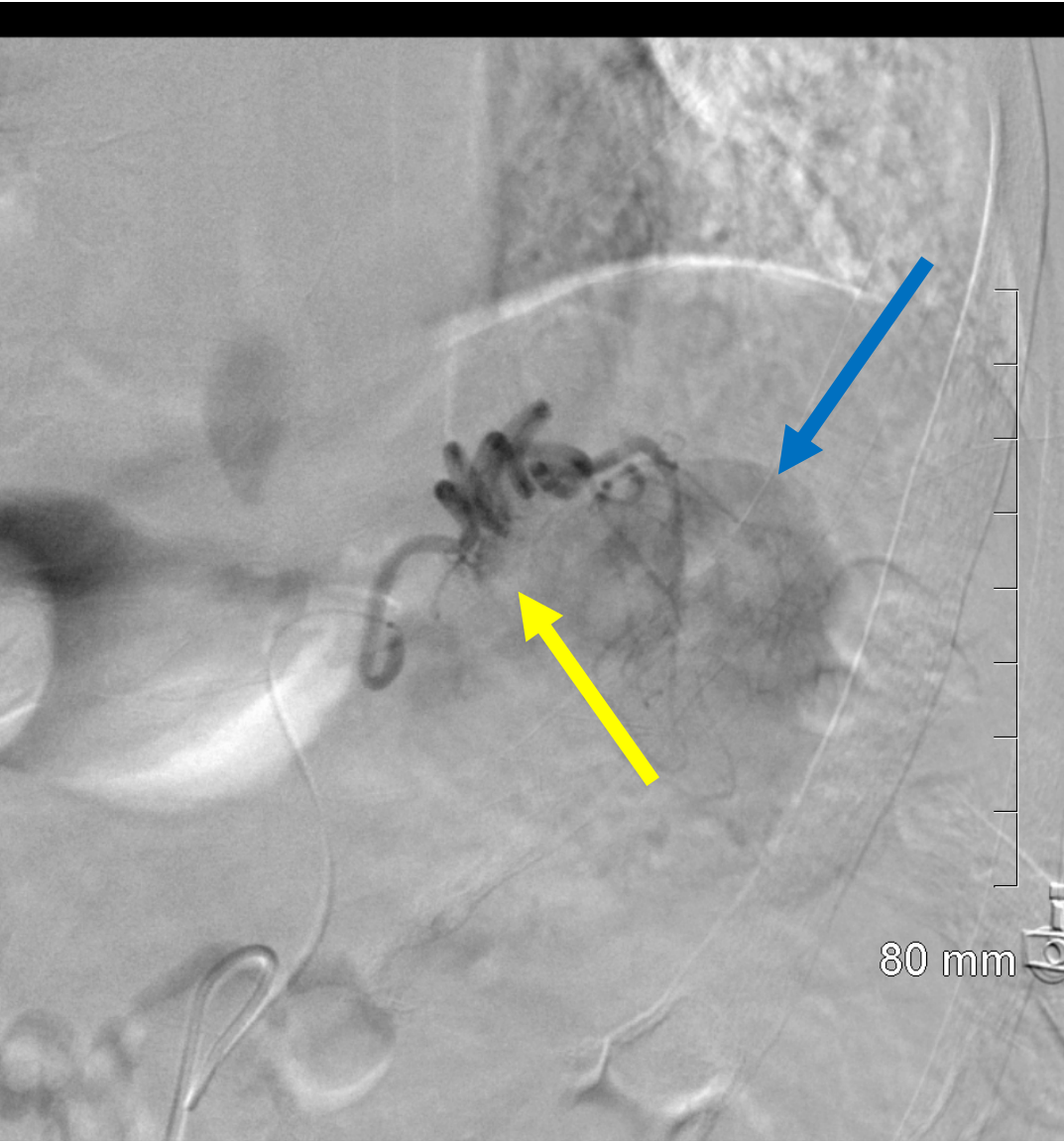


CT Abdomen/Pelvis

- Mural thickening at posterior gastric fundus with associated internal tangle of vessels with left inferior phrenic artery being one of the feeding vessels (yellow arrows)
- Multiple splenules are noted (blue arrows)
- The left inferior phrenic artery feeds a splenule adjacent to posterior fundus (not pictured)







Angio

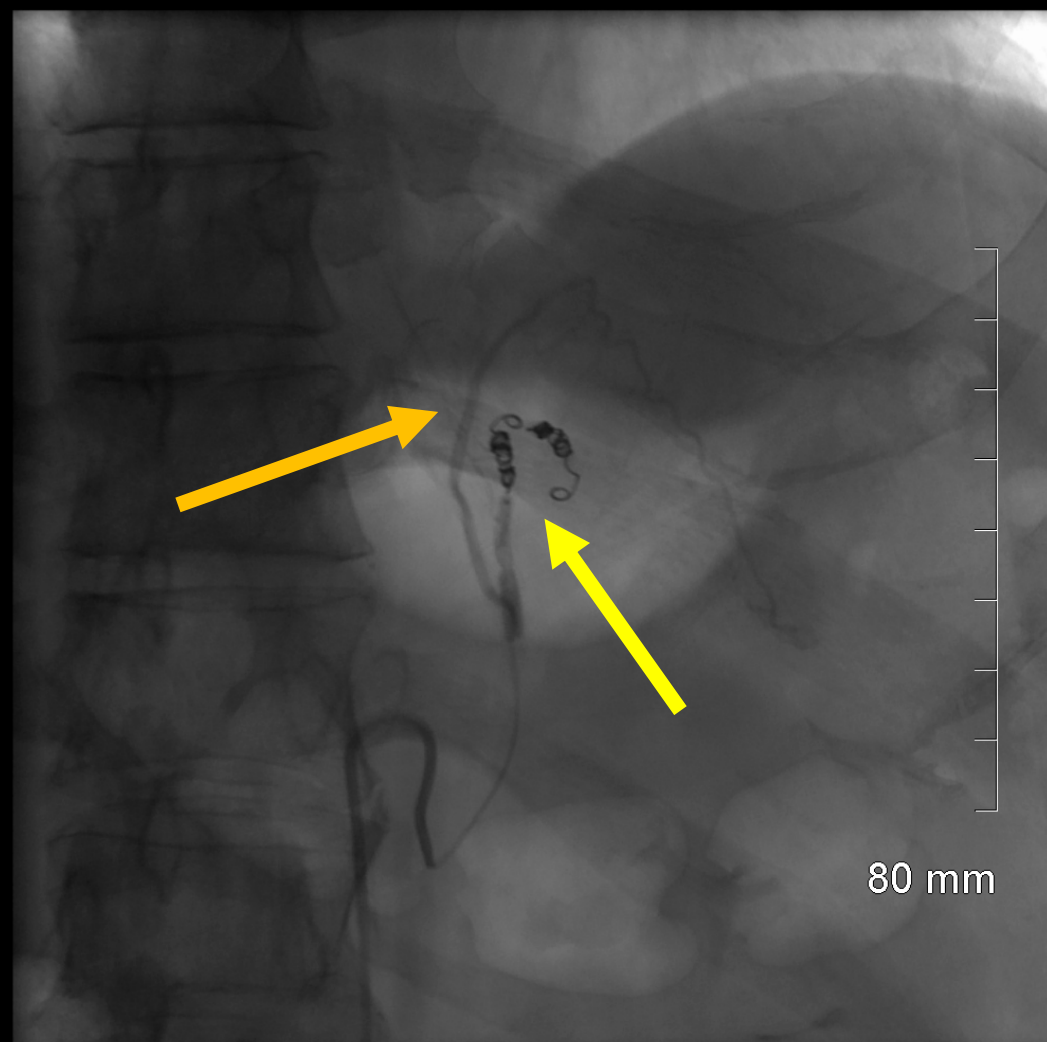
- Hypertrophied, tortuous left inferior phrenic artery coursing the wall of the fundus (yellow arrow)
- Supplying adjacent/implanted splenule which demonstrates normal parenchymal blushing (blue arrow)
- The splenule is also supplied by short gastric arteries originating from the splenic artery (red arrow)

Diagnosis

- Gastric fundal hemorrhage with hypertrophied, tortuous left inferior phrenic artery supplying adjacent/implanted perigastric splenosis
- Hypothesis for presentation: Incidental vessel perforation or splenic tissue laceration on initial endoscopic fundal biopsy leading to upper gastrointestinal bleed

Treatment Options

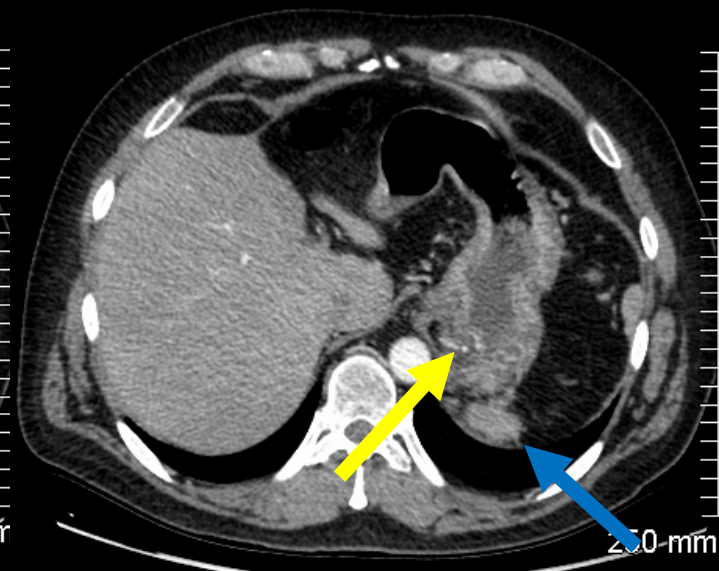
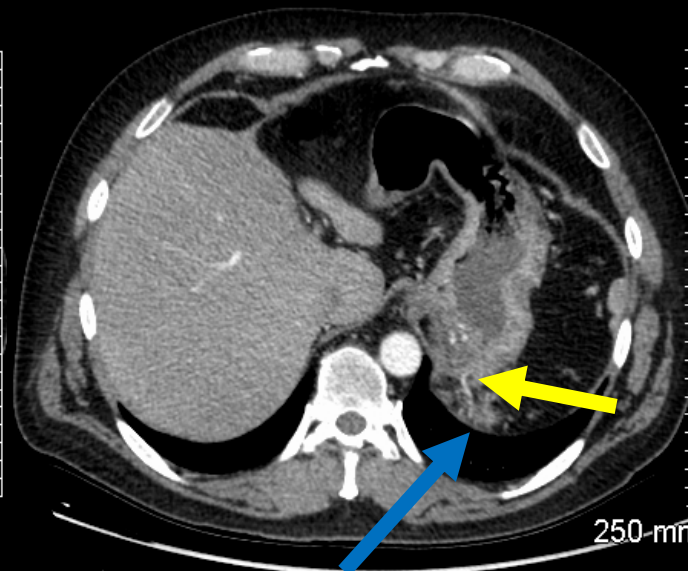
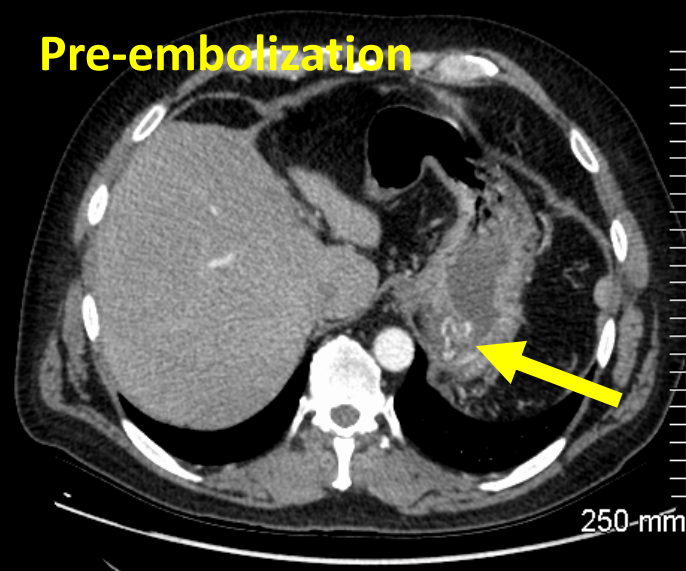
- Surgery
- Embolization



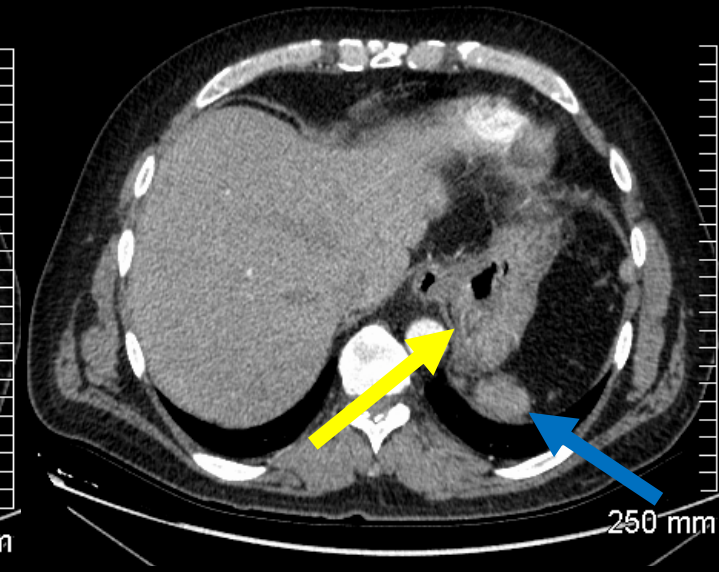
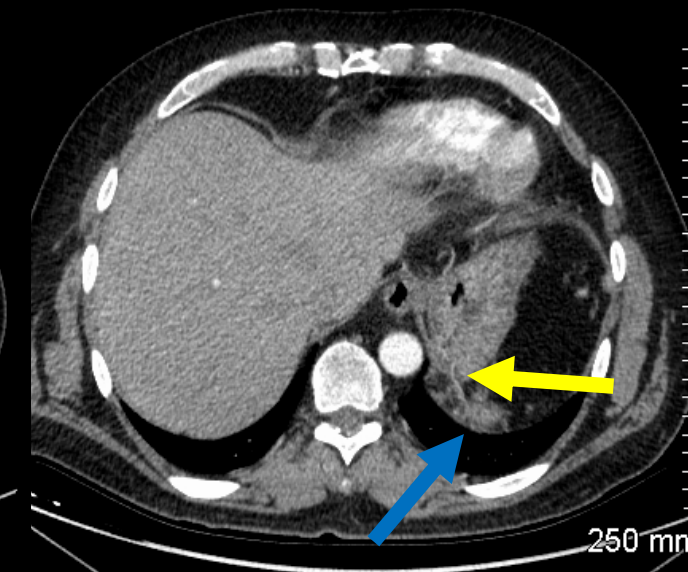
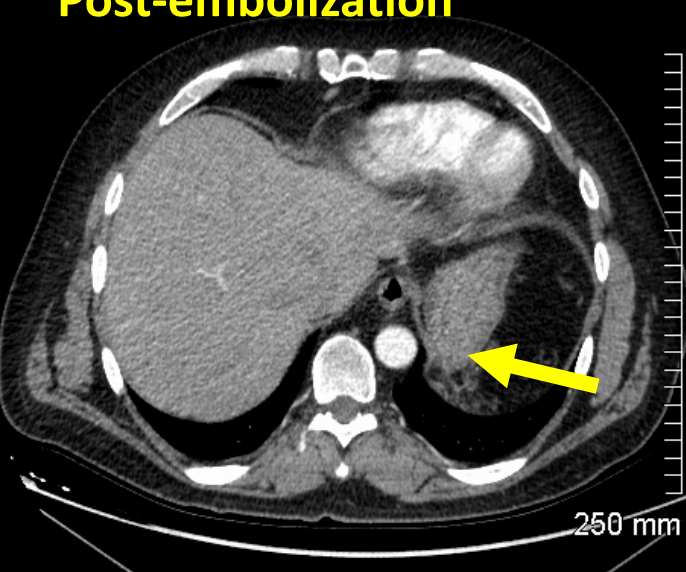
Treatment

- Embolization of the left inferior phrenic artery distal to its adrenal branch was performed with multiple coils (yellow arrows)
- Ascending branch of left inferior phrenic artery remained patent (orange arrow)
- Short gastric feeding arteries supplying the splenules were not embolized due to patient's wishes to maintain splenic tissue

Pre-embolization



Post-embolization



Post-Embolization

- No recurrence of gastrointestinal bleed as of most recent follow-up (18 months post-procedure)

Discussion

- Splenosis refers to acquired auto transplantation of one or more focal deposits of splenic tissue in various locations within the body cavity
- Can be seen after abdominal trauma/surgery with seeding of the body cavity with splenic tissue and subsequent recruitment of local blood supply
- Usually asymptomatic and can provide a degree of normal splenic function
- Asymptomatic splenosis is managed conservatively

Discussion

- Can present a diagnostic dilemma given multiple potential sites of implantation with differential diagnosis of peritoneal metastases, lymphadenopathy or solid organ tumors depending on site
- MRI and CT appearance same as normal spleen
- Can be diagnosed definitively by Tc 99m heat-damaged red blood cell scan
- Histologically the same as splenic tissue
- Complications from splenosis have been described including bowel obstruction, gastrointestinal bleeding and relapse of hematological diseases

References

- Sikov WM, Schiffman FJ, Weaver M, Dyckman J, Shulman R, Torgan P. Splenosis presenting as occult gastrointestinal bleeding. *Am J Hematol* 2000; 65(1):56-61.
- Kutzen BM, Levy N. Splenosis simulating an intramural gastric mass. *Radiology* 1978; 126:45-46.
- Leitz EM, Kwan SW. Splenosis: a rare cause of gastrointestinal bleeding successfully treated with transarterial embolization. *Clin J Gastroenterol* (2015) 8:126-129.
- Yang K, Chen XZ, Liu J, Wu B, Chen XL, Hu JK. Splenosis in gastric wall mimicking gastrointestinal stromal tumor. *Endoscopy* 2013; 45: E82-E83.