



Detection and Management of an Intact Splenic Artery Branch Within a Pancreatic Pseudocyst During EUS-Guided Cystogastrostomy

Sanjita Gowda, BS¹; Samuel Ji, DO²; Amirali Tavangar, MD³; Marc Monachese, MD³; John Lee, MD³; Jason Samarasena, MD³

¹University of California Irvine, School of Medicine

²University of California Irvine, Department of Medicine

³Digestive Health Institute, University of California Irvine Medical Center



Introduction

- Peripancreatic arteries, most commonly the splenic, pancreaticoduodenal, and hepatic arteries, are highly susceptible to pseudoaneurysm formation in pancreatitis and pancreatic fluid collections (PFCs) due to exposure to auto-digestive enzymes.¹
- Incidence of pseudoaneurysm in chronic pancreatitis is estimated between 10% - 17%, with rupture associated with a mortality rate of 40%¹, which emphasizes the importance of vessel detection and cautious management.

Case Description

- A 22-year-old man with a history of chronic pancreatitis presented with epigastric pain, nausea, and vomiting.
- CT abdomen and pelvis (CTAP) revealed a large necrotic area within the pancreas.
- Initial EUS demonstrated chronic pancreatitis along with an adjacent large fluid collection with surrounding collateral vessels. As flow doppler did not reveal internal vasculature (Figure 1), a lumen-apposing metal stent (LAMS) was placed and dilated.
- Upon entry with the endoscope, a very large vessel was visualized (Figure 2). Repeat EUS revealed an 8 mm vessel with notable pulsation (Figure 3).
- Following consultation with the hepatobiliary surgery service and repeat review of CTAP, the team determined that this vessel was a distal branch of the splenic artery.
- An 11 mm Conmed clip was then placed at the origin of the vessel for interventional radiological localization (Figure 4). The LAMS was removed, and the tract was closed to prevent the risk of catastrophic hemorrhage.

Figures



Figure 1: Initial EUS prior to PFC drainage



Figure 2: Initial visualization of splenic artery branch within PFC

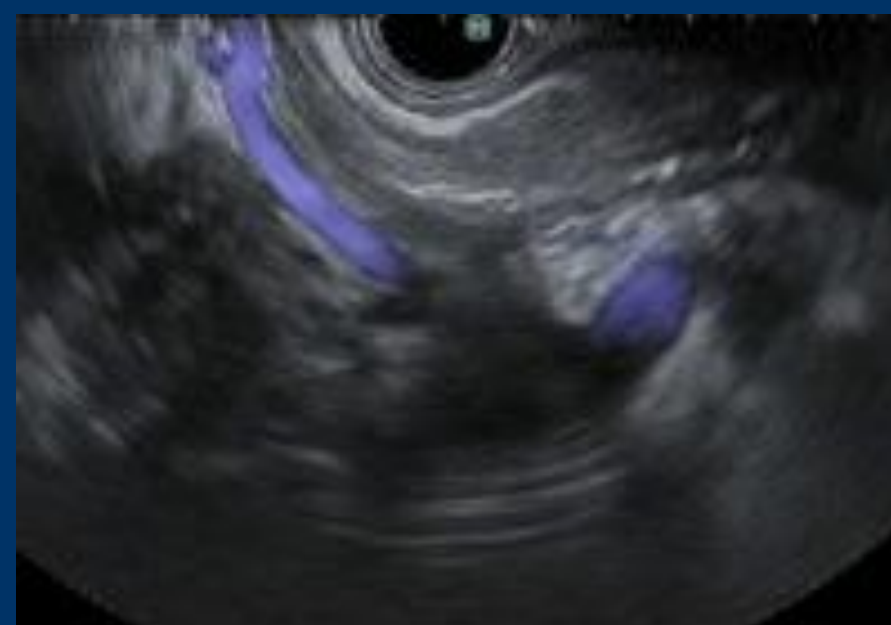


Figure 3: Repeat EUS with Doppler after insufflation of collapsed pseudocyst demonstrating intact vessel

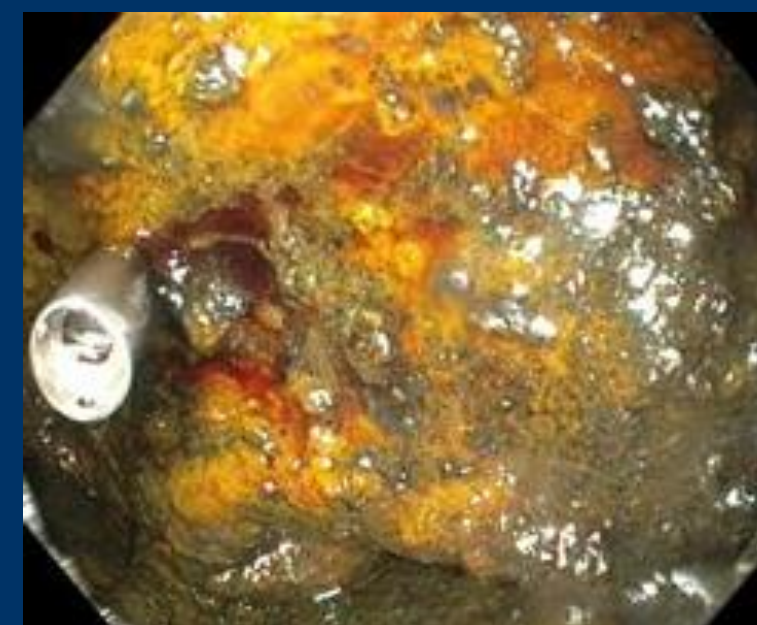


Figure 4: Conmed clip placement to assist in IR localization of vessel origin

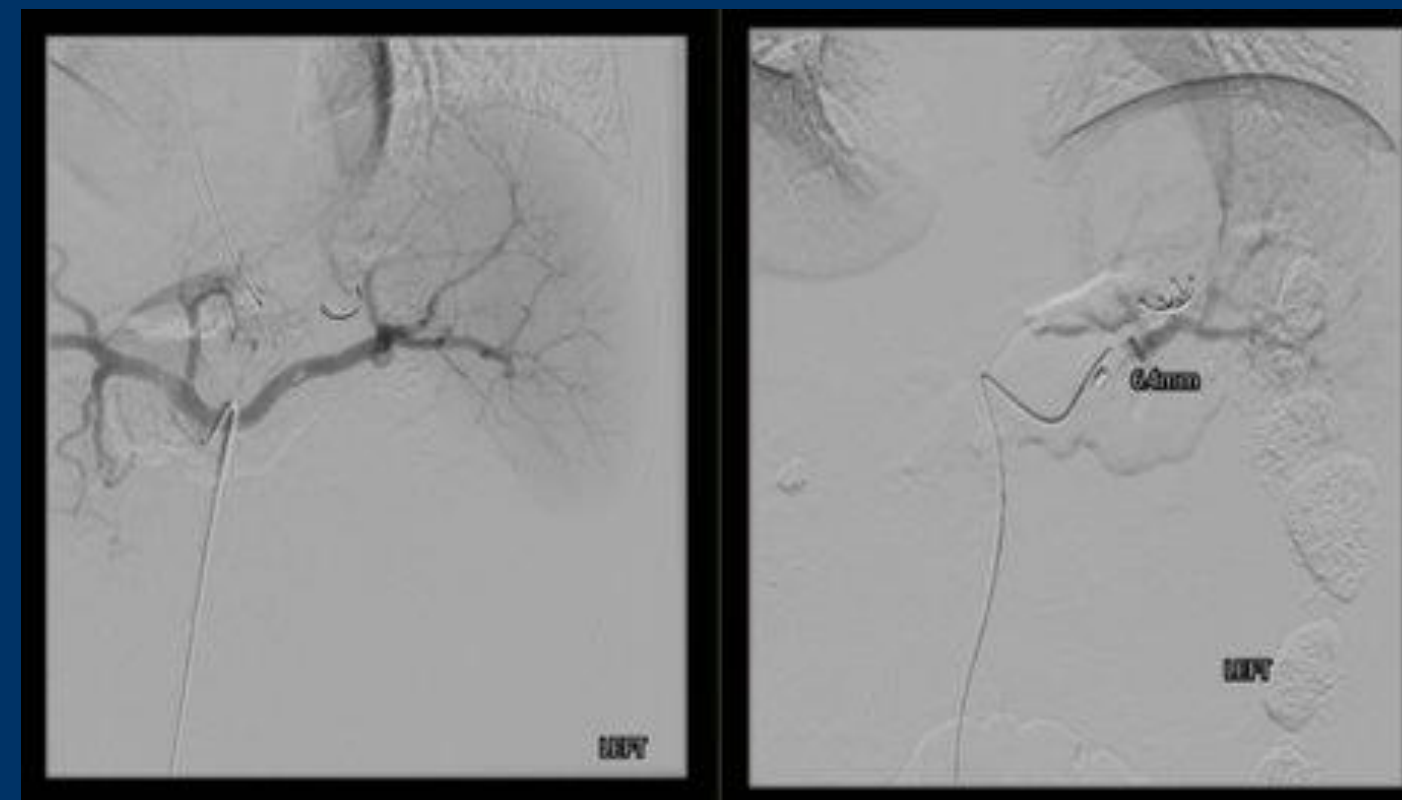


Figure 5. Angiogram of splenic artery branch before (left) and after (right) arterial embolization

Case Description (cont.)

- Interventional radiology performed arterial embolization of the splenic artery with subsequent angiogram revealing occlusion of the artery (Figure 5).
- Subsequent EUS and gastroscopic visualization revealed negative flow on Doppler ultrasonography and no evidence of active bleeding, respectively. A LAMS and two double pigtail stents were replaced successfully to address the pseudocyst.
- The patient tolerated the procedures well and was transferred back to the referring facility after three days of admission.

Discussion

- Despite close inspection of the pseudocyst with doppler and B-mode evaluation prior to LAMS deployment an internal vessel was not seen and at risk of transection during LAMS placement.
- Careful review of CT imaging and detailed evaluation of cysts should be undertaken prior to therapeutic intervention.
- Multidisciplinary consultation with hepatobiliary surgery and interventional radiology is critical when high-risk anatomy is discovered to coordinate care.
- Prevention of hemorrhage should be the priority and once obtained, further therapy of fluid collections can be attempted.

References

- 1) De Rosa A et al. The radiological management of pseudoaneurysms complicating pancreatitis. *JOP*. 2012;13(6):660-666.