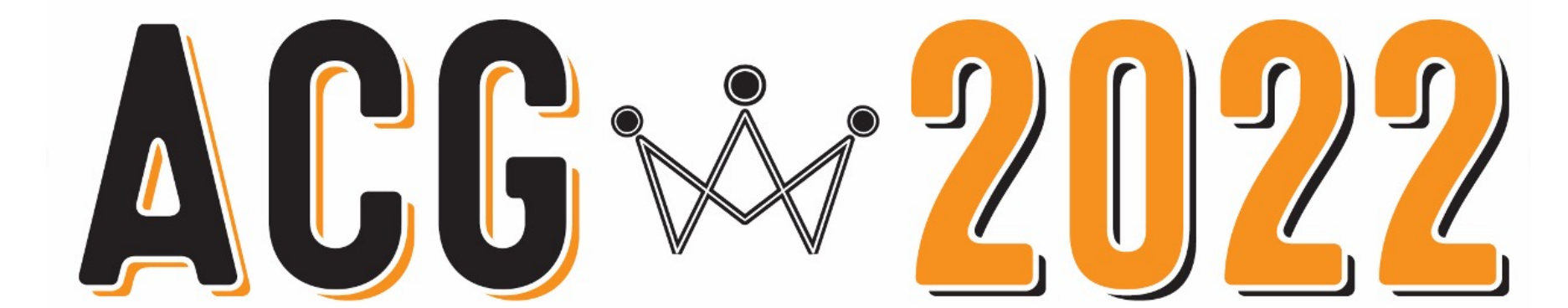


A Rare Case of Pancreaticoduodenal Artery Pseudoaneurysm Rupture Following Endoscopic Retrograde Cholangiopancreatography

Averill Guo, Amber Charoen, Fadlallah Habr

The Warren Alpert Medical School of Brown University, Division of Gastroenterology



Background

- Hemorrhage is a known potential complication of endoscopic retrograde cholangiopancreatography (ERCP)
- Often occurs at the site of sphincterotomy.
- Less commonly, intra- and retroperitoneal hemorrhage can occur secondary to splenic, hepatic, or vascular injury.
- Here we present a rare case of inferior pancreaticoduodenal artery (IPDA) pseudoaneurysm (PSA) rupture following ERCP in a patient with a large diaphragmatic hernia.

Case Description

- 68 year old man with hypertension, chronic kidney disease, and prior splenectomy
- He presented with jaundice, fatigue
- Labs: hypoglycemia, acidemia, acute kidney injury, normal AST/ALT, alkaline phosphatase (129 IU/L), Tbili (4.2 mg/dL), Dbili (2.5 mg/dL), lipase (157 IU/L)
- CT with contrast: choledocholithiasis (1.2 cm stone in the bile duct near the head of the pancreas), pneumobilia, intra- and extrahepatic ductal dilation, pancreatic ductal dilation, large left diaphragmatic hernia, protrusion of nonobstructed loops of large and small bowel into the left hemithorax
- ERCP: Biliary sphincterotomy with removal of one stone (one large stone remained) and plastic stent placement in the CBD with plans to repeat ERCP in 4-6 weeks with cholangioscopy and electrohydraulic lithotripsy
- Subsequent acutely worsening anemia without overt evidence of luminal GI bleeding
- CT angiography: Active extravasation, PSA within an intra-abdominal hematoma
- Mesenteric angiography: one multilobulated (2 x 1.8 cm) and one smaller PSA arising from an IPDA branch. Coil embolization of the dominant PSA achieving hemostasis.

Figures and Tables

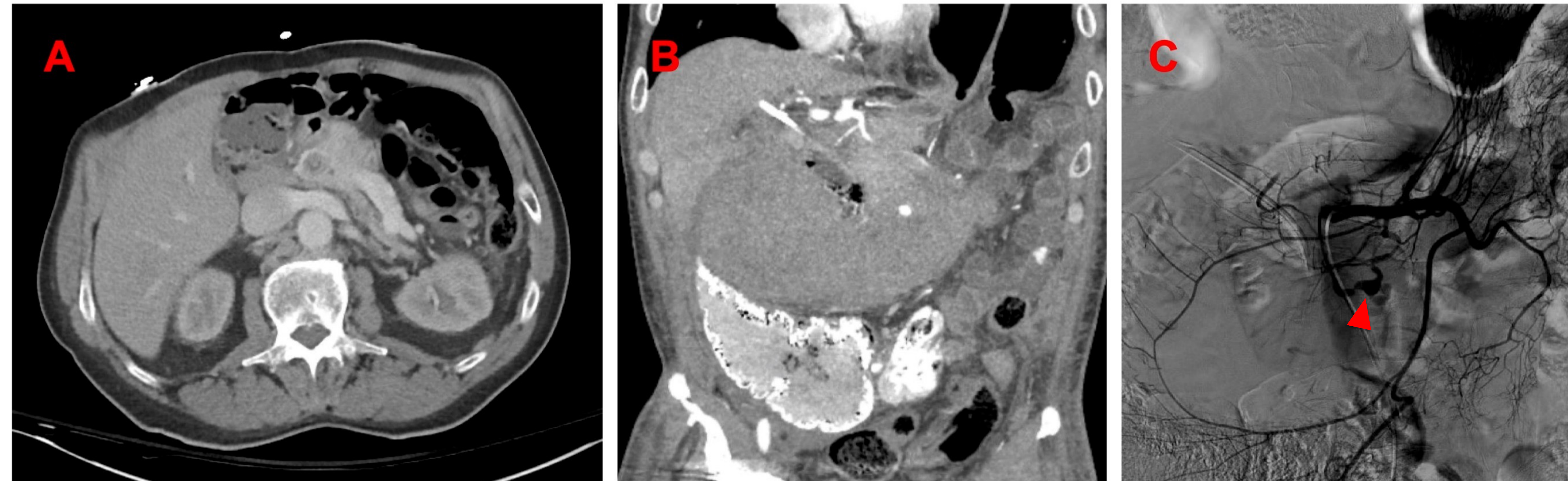


Fig 1: (A) CT with contrast showing choledocholithiasis with a 1.2 cm stone in the head of the pancreas. (B) CT angiography showing active extravasation and a pseudoaneurysm (PSA) within an intra-abdominal hematoma (18.4 x 8.5 cm). (C) Mesenteric angiography which showed one multilobulated (2 x 1.8 cm, arrowhead) and one smaller PSA arising from an inferior pancreaticoduodenal artery branch.

	Age/Sex	Comorbidities	ERCP Indication	Interventions	Symptom	Diagnosis	Treatment
Al-Jeroudi et al 2001	76 F	None	Palliation of pancreatic carcinoma	Percut sphincterotomy, biliary stent	Abdominal pain	IPDA pseudoaneurysm	Embolization
Rim et al 2021	27 M	Sickle cell disease	Choledocholithiasis	Sphincterotomy, stone extraction, biliary stent, pancreatic duct stent	Abdominal pain, acute anemia	IPDA pseudoaneurysm rupture	Embolization
Current Case	68 M	Hypertension, chronic kidney disease, diaphragmatic hernia	Choledocholithiasis	Sphincterotomy, stone extraction, biliary stent	Abdominal pain, acute anemia	IPDA pseudoaneurysm rupture	Embolization

Table 1: Summary of currently available case reports of inferior pancreaticoduodenal artery (IPDA) pseudoaneurysm development following endoscopic retrograde cholangiopancreatography (ERCP)

Discussion

- Visceral artery aneurysm (VAA) rupture is an exceedingly rare complication of ERCP
- IPDA pseudoaneurysms account for just 2% of VAA.
- Although there is a known association of VAA with pancreatitis, the mechanism for PSA formation following ERCP is unclear.
- It is thought to be associated with sphincterotomy with rupture caused by direct mechanical injury related to pancreaticobiliary manipulation.
- Mortality related to VAA rupture and hemorrhage can be as high as 19%.
- A high index of suspicion and early detection followed by angioembolization are critical for reducing mortality.

Disclosures

- We have no conflicts of interest to report.

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