

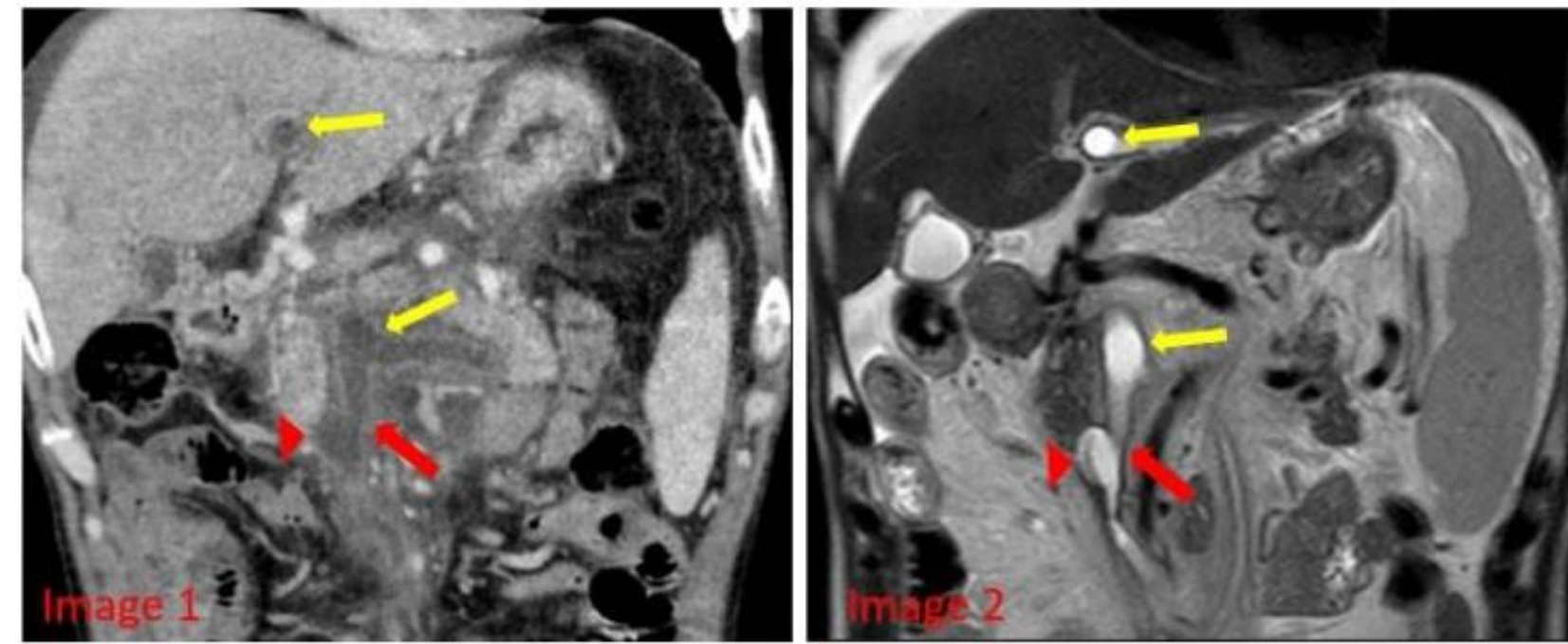
Spontaneous Pancreatic Pseudocyst-Superior Mesenteric Vein Fistula: A Case Report

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Introduction

- Pseudocysts are common complications of chronic pancreatitis
 - 20-40%¹
- Fistula development between pancreatic pseudocysts and the portal venous system is rare
 - Life-threatening
 - Challenging to diagnose and treat
- Aim of this case study
 - Highlight certain aspects of diagnosis, management, and complications of this rare condition

Figures



Images 1 and 2: Coronal CT and T2 weighted MR images, respectively, of the upper abdomen demonstrate the inferior component of the partially visualized large pseudocyst (red wedge) fistulizing a branch of the SMV near the pancreatic head (red arrow). Fluid density and correlating MR T2 bright fluid signal is noted in the partially visualized proximal SMV and the left portal vein (yellow arrow).

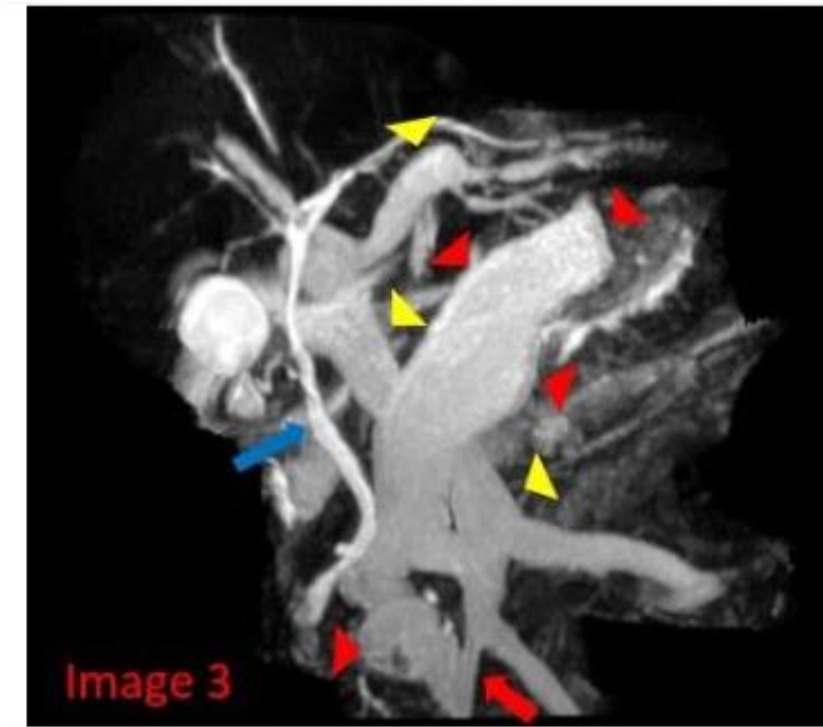


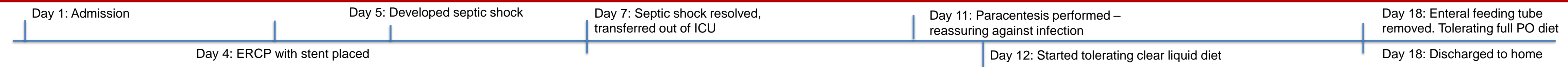
Image 3: MRCP MIP reconstructions are used to emphasize fluid in a 3D image. The large pseudocyst is noted (red wedge) with cystic component fistulizing a branch of the SMV (red arrow). Extension of the pseudocyst conforms to the extrahepatic and intrahepatic portal venous system (yellow wedge). Normal appearing common bile duct also noted (blue arrow).

Discussion

- This case explored an uncommon complication of a common finding (pseudocyst formation) in pancreatitis
- MRCP is a valuable diagnostic tool when pseudocyst-portal venous system fistula is suspected²
 - Confirmed the diagnosis in this case
- ERCP should be considered if there is suspicion for a pancreatic duct leak
 - Prevent complications and avoid the need for surgical intervention
- Potential benefits of anticoagulation must be weighed against the high risk of bleeding
- Early enteral nutrition should be established given potential for malnutrition
- Long term suppressive antibiotics warrant consideration given infection risk

1. Tomsan H, Olivas-Chacon C, Hayeri MR, Babu AS. Spontaneous pancreatic pseudocyst - superior mesenteric vein fistula: A rare complication of chronic pancreatitis. *Radiol Case Rep.* 2020;15(10):1939-42.
2. Ng TS, Rochefort H, Czaplicki C, Teixeira P, Zheng L, Matsuoka L, et al. Massive pancreatic pseudocyst with portal vein fistula: case report and proposed treatment algorithm. *Pancreatology.* 2015;15(1):88-93.

Case Description



Initial Presentation

- 50 year-old man
- Past medical history of alcohol use disorder
- 6 months of fatigue, unintentional 15-20 lb weight loss, intermittent upper abdominal pain
- Vitals within normal limits
- Exam with mild abdominal tenderness in epigastrium, otherwise unremarkable
- Initial laboratory workup
 - Lipase 284 IU/L (upper limit of normal 60 IU/L)
 - Hemoglobin 9.2 g/dL
 - Liver enzymes within normal limits

Diagnosis

- Contrast enhanced CT as first imaging modality
 - Portal venous thrombosis
 - Splenomegaly
 - Mild abdominal ascites
 - Pseudocyst, concern for fistula to portal venous system
- MRI/magnetic resonance cholangiopancreatography as confirmatory
 - 8.5 x 3.1 x 2.6 cm pseudocyst communicating with superior mesenteric vein (SMV) and left portal vein

Treatment

- ERCP demonstrated a pancreatic duct leak which was subsequently stented
- Anticoagulation for portal venous thrombosis was deferred given high risk of bleeding due to the presence of the fistula
- Early enteral nutrition
- Targeted suppressive antibiotic therapy

Complications

- Septic shock with bacteremia post-ERCP
 - Clostridium perfringens* and *Haemophilus parainfluenzae*
 - Resolved with suppressive antibiotics
- Malnutrition
 - Tolerating oral intake at discharge

Outcome

- Clinically improved at end of hospitalization
- Discharged to home after 18 days with planned clinic follow up
- Readmitted for bacterial and fungal peritonitis and recurrent pleural effusions
 - Treated with suppressive antibiotics and anti-fungal therapy
- Imaging 2 months after his initial presentation has continued to demonstrate the fistula
- Admitted to long term acute care facility 3 months after initial presentation