

Introduction:

Pancreaticopleural fistula (PPF) is an unusual complication of acute and chronic pancreatitis presenting in approximately 0.4% of patients with pancreatitis.¹ This rare entity is most commonly seen in patients who develop pancreatic pseudocyst. PPF generally occurs due to fluid leakage in the retroperitoneum, either directly from the pseudocyst or rarely from the pancreatic duct itself. Large volumes of pleural fluid can accumulate as a result of fistula formation, which can create problems with diagnosis. PPF commonly presents in middle-aged alcoholic men. Here we present a patient who came in with recurrent pleural effusion due to PPF.

Case Description:

A 61-year-old male with a history of alcohol abuse and multiple admissions for acute on chronic pancreatitis, presented to the ED complaining of left-sided chest and abdominal pain. On previous admission, the patient had an exudative pleural effusion with elevated fluid amylase (105,296 U/L) which resolved with chest tube placement [Figures 1A].

Upon examination, he had LUQ abdominal pain with rebound tenderness, pleuritic chest pain associated with cough, and dyspnea on exertion. Decreased left-sided breath sounds were also present on physical exam. CXR revealed patchy, confluent areas in the left lung with pleural effusion [Figures 1B]. CT of the abdomen and pelvis [Figure 2] showed a recurrent left pleural effusion and a well-differentiated peri-splenic collection measuring 6x3x6 cm, suspicious for pancreatic pseudocyst. The magnetic resonance cholangiopancreatogram (MRCP) [Figure 3] revealed dilated distal pancreatic duct in the tail with possible sinus tract into the pleural cavity consistent with a fistula.

CT guided drainage was performed for both fluid collections and a chest tube was placed in the left pleural cavity. He was treated with broad-spectrum antibiotics, pancreatic enzyme replacement therapy, octreotide, and discharged with left pleural and left upper quadrant drain in situ. The patient was advised to abstain from alcohol and comply with medications and was given appointments for possible outpatient ERCP and pancreatic stent placement if needed.

Figures:

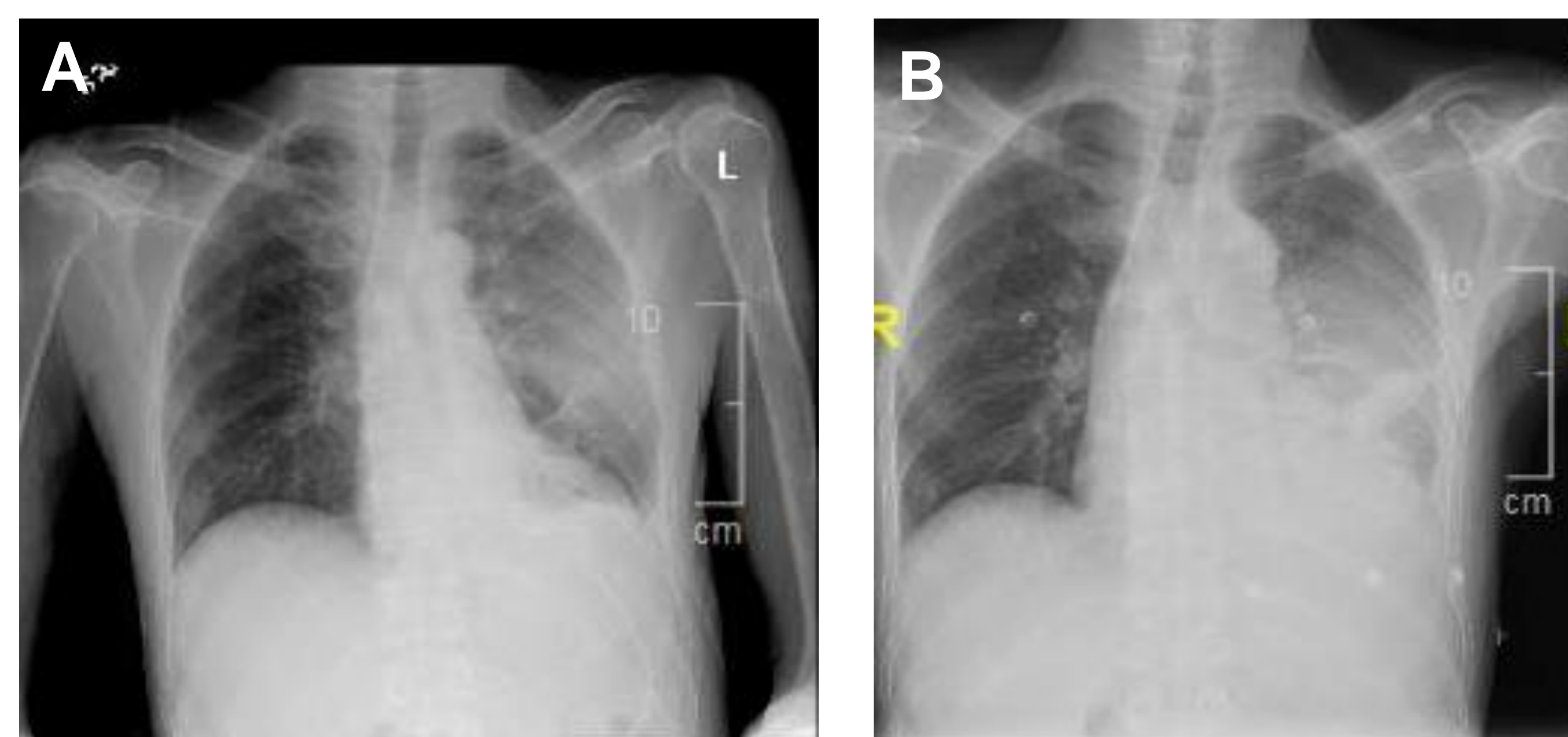


Figure 1: Anteroposterior chest radiographs from (A) 3-weeks prior showing resolution of pleural effusion after chest tube drainage and (B) on current admission showing increased patchy and confluent areas in the left lung with loculated pleural fluid.

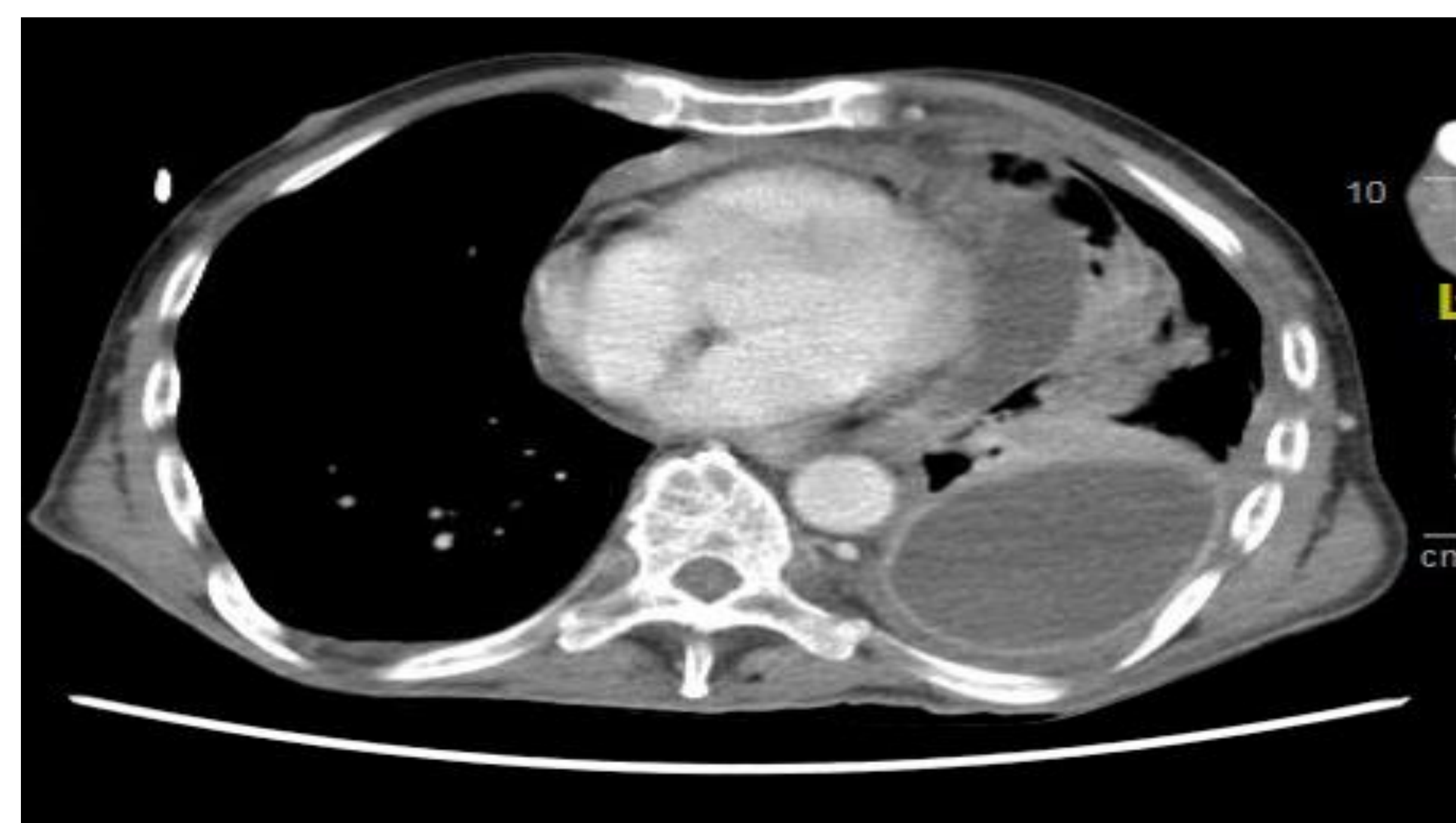


Figure 2: Computed tomography of the abdomen and pelvis with contrast showing a well-differentiated, 6x3x6 cm pancreatic pseudocyst.

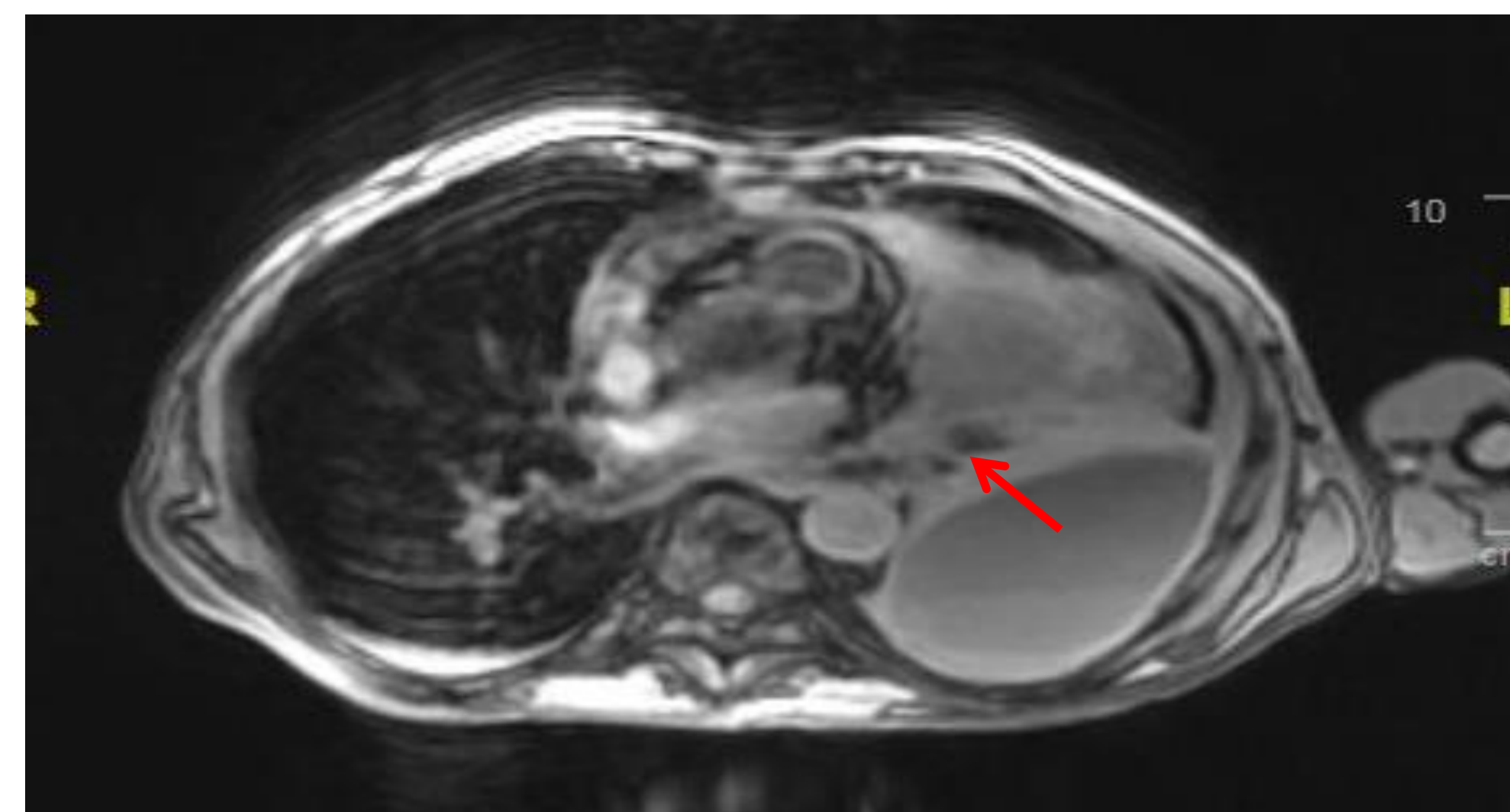


Figure 3: Coronal view of magnetic resonance cholangiopancreatogram (MRCP) with contrast showing dilated distal pancreatic duct in the tail with possible sinus tract into the pleural cavity consistent with a fistula [red arrow].

Discussion:

PPF is a rare complication of pancreatitis and should be suspected in patients who present with thoracic complaints such as dyspnea, cough, or chest pain in the setting of pancreatitis. Thoracentesis generally reveals an exudative pleural effusion with an elevated amylase level (> 1,000 IU) suggesting leakage of fluid through the fistula tract from the pancreatic duct or its' complications, in the absence of malignant cells. MRCP is the diagnostic test of choice of PPF.

Kord Valeshabad *et al* performed a literature review of PPF cases and found that the CT abdomen and pelvis can detect fistula tract formation in about 60% of patients while MRCP identified up to 80% of the cases.⁴ Treatment options include: 1) conservative management with octreotide, thoracentesis, and fluid drainage 2) ERCP with endoscopic stent placement and 3) surgery. As appropriate workup and drainage of the fluid is necessary to prevent re-hospitalizations, PPF should be included in the differential diagnosis of patients presenting with pleural effusion with a history of pancreatitis.

References:

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2. Machado NO. Pancreaticopleural fistula: revisited. *Diagn Ther Endosc*. 2012;2012:815476. doi:10.1155/2012/815476
3. Bediwy AS. Pancreatico-pleural fistula: A rare cause of massive right-sided pleural effusion. *Egyptian Journal of Chest Diseases and Tuberculosis*. 2015 Jan 1;64(1):149-51.
4. Kord Valeshabad A, Acostamadiedo J, Xiao L, Mar W, Xie KL. Pancreaticopleural Fistula: A Review of Imaging Diagnosis and Early Endoscopic Intervention. *Case Rep Gastrointest Med*. 2018;2018:7589451. Published 2018 Aug 19. doi:10.1155/2018/7589451

