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Case Report

Mediastinal extension of a pancreatic pseudocyst

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ABSTRACT

A 50-year-old man with a history of chronic pancreatitis due to alcoholism presented with dyspnea, at which time he was diagnosed with pleural effusions, treated, and discharged. Two months later, he was readmitted with hemoptysis and abdominal pain. CT and MRI of the chest demonstrated a mediastinal cystic mass that communicated with the retroperitoneum. Ultrasound-guided aspiration of the cystic mass revealed high levels of amylase, confirming that the mass was a rare pancreatic pseudocyst extending into the mediastinum.

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Case report

We present the case of a mediastinal pancreatic pseudocyst in a 50-year-old man with a history of chronic pancreatitis owing to alcoholism. The patient initially complained of dyspnea and underwent a CT scan, which demonstrated bilateral pleural effusions (Fig. 1). Two months later, he presented with hemoptysis and abdominal pain, again prompting diagnostic imaging. A repeat CT scan (Figs. 2 A-C) demonstrated interval formation of a large, nonenhancing, subcarinal fluid collection that extended through the hiatus into the retroperitoneum. A subsequent Chest MRI (Figs. 2 D-F) corroborated this finding. Given the history of chronic pancreatitis, this led to a differential diagnosis of mediastinal pancreatic pseudocyst and loculated pericardial effusion. Ultrasound-guided aspiration

of the fluid collection revealed amylase within the aspirate, confirming the suspected diagnosis of a pancreatic pseudocyst. The pseudocyst was drained and a catheter was left behind. The pseudocyst had almost completely resolved after 2 months (Figs. 3 A-C).

Discussion

A pancreatic pseudocyst is a collection of pancreatic secretions enclosed in fibrous tissue (in contrast to a true cyst that has an epithelial lining) and is a common complication of acute and chronic pancreatitis. However, pseudocyst extension into the mediastinum is rare. Mediastinal pseudocysts develop when the pancreatic duct ruptures posteriorly and releases proteolytic enzymes into the retroperitoneum. These enzymes dissect through the diaphragm into the medi-

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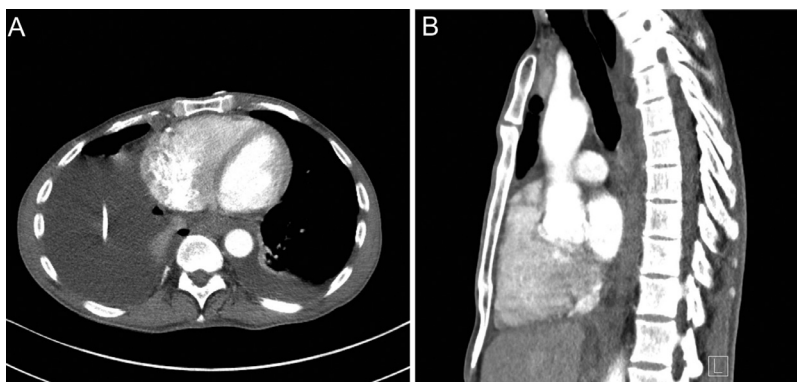


Fig. 1 – Imaging at initial admission. (A & B) Axial and sagittal views, respectively, of a CT with IV contrast demonstrating bilateral pleural effusions. Incidentally, a chest tube drains the right pleural effusion.

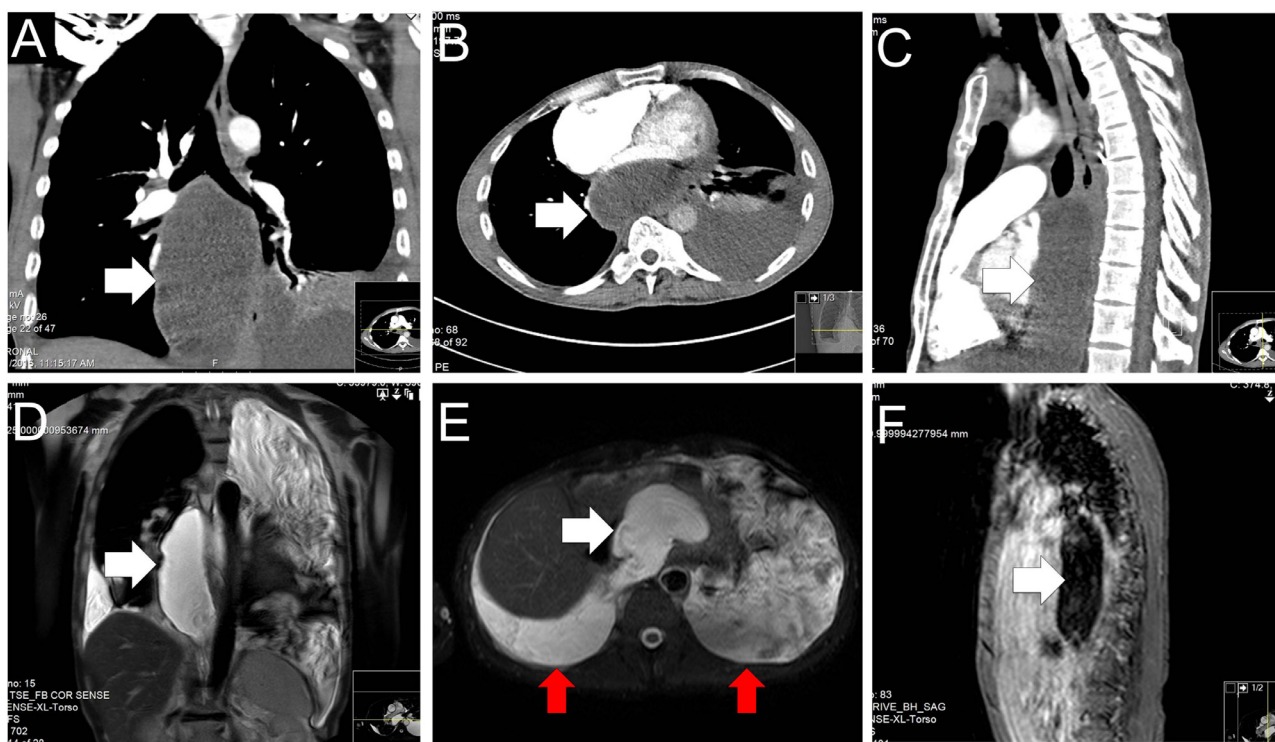


Fig. 2 – Imaging 2 months later at second admission. (A, B, & C) Coronal, axial, and sagittal views, respectively, of a CT with IV contrast demonstrating a new, large, nonenhancing, subcarinal fluid collection (horizontal arrows). Coronal (D) and axial (E) fat-saturated T2W MRI and a sagittal (F) fat-saturated T1W MRI with IV contrast also demonstrate a large, nonenhancing, subcarinal fluid collection (arrows) and bilateral pleural effusions (vertical arrows). (The color version of this figure is available in the online edition.)

astinum, usually via the esophageal or aortic hiatus. Less common ports of entry into the mediastinum include the foramen of Morgagni, the vena caval hiatus, and direct penetration of the diaphragm [1,2].

Patients with mediastinal pancreatic pseudocysts typically present with abdominal pain, dyspnea, and dysphagia. Large pseudocysts may exert mass effect on adjacent organs, resulting in respiratory compromise, congestive heart failure,

and pleural effusions owing to compression of the mediastinal lymphatics [2,3]. Pseudocysts may also rupture, hemorrhage, or become infected, further complicating the clinical course [1]. Differential diagnoses to consider for posterior mediastinal cystic lesions include neurenteric cyst, schwannoma, meningocele, hernia, and paraspinous abscess [4].

Once suspected, diagnosis requires CT, MRI, ultrasound, and/or imaging-guided fluid aspiration. CT and MRI usually

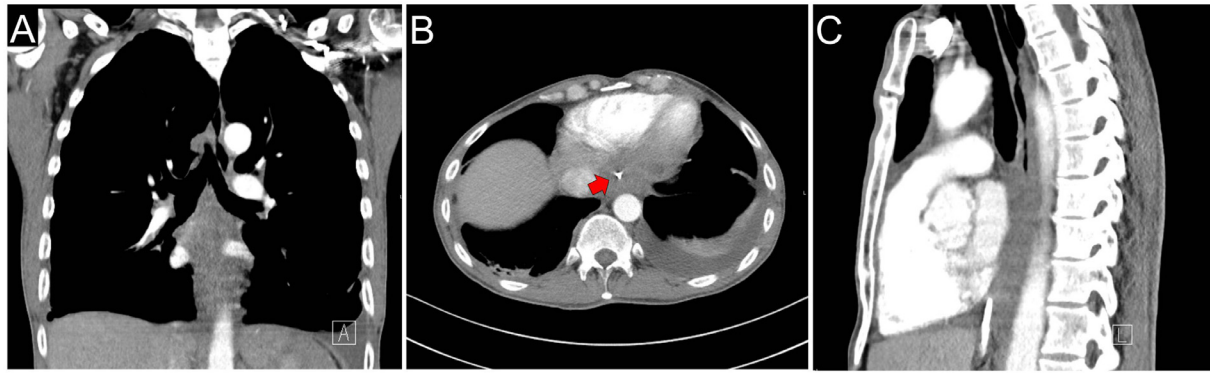


Fig. 3 – Images 2 months after second admission and treatment. (A, B, & C) Coronal, axial, and sagittal views, respectively, from a CT with IV contrast demonstrate near complete post-treatment resolution of the pancreatic pseudocyst. Incidentally, a drainage catheter resides at the location of the obliterated pseudocyst (arrow). (The color version of this figure is available in the online edition.)

demonstrate the presence of a cystic mass in the posterior mediastinum. These imaging modalities may also show the communication between the mediastinal and abdominal components of the pancreatic pseudocyst. Diagnosis is confirmed when high amylase levels are found within the fluid following ultrasound-guided aspiration [1].

Spontaneous regression of mediastinal pancreatic pseudocysts is extremely rare. As a result, medical, surgical, and endoscopic interventions are usually necessary. The medical management aims to reduce exocrine pancreatic function by using somatostatin therapy, total parenteral nutrition, and mucolytic agents [1,2]. Surgical interventions including pancreatic resection, percutaneous drainage, and internal drainage are often necessary, though less preferable due to the invasiveness [4,5]. Endoscopic drainage is achieved through a transmural or transpapillary approach with placement of a stent if the duct is disrupted. This therapeutic technique is less invasive than surgery with fewer complications and a superior overall outcome [2,6].

In conclusion, mediastinal pancreatic pseudocyst is a rare entity that can cause serious complications if left untreated. A history of acute or chronic pancreatitis is key to its diagnosis. Exclusion of other diagnoses is an essential part of the workup due to the sensitive location of the entity and the potential danger of it being left undiagnosed and untreated.

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