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A very rare case of an intrathoracic pancreatic pseudocyst

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ABSTRACT

Pancreatic pseudocysts are mostly located in the peripancreatic region, but extra-abdominal intrathoracic extensions can occur and mimic respiratory and ischemic symptoms. Mediastinal location is an example that can present with dyspnea and retrosternal chest pain. Pancreatic-pleural fistulas may occur and often result in large and recurrent pleural effusions. In this case report, a 50-year-old man with a previous subdiaphragmatic pseudocyst presented an acute episode of respiratory symptoms and was diagnosed with a newly organized collection located into the thorax, adjacent to the previous one, formed by the fistulization of the abdominal pseudocyst. No similar cases have been described or published in indexed PubMed databases until the year 2023.
A 50-year-old male, with a history of chronic alcoholic pancreatitis, and a previous diagnosis of subdiaphragmatic pancreatic pseudocyst (Fig. 1), presented to the emergency department complaining of dyspnea and pleuritic chest pain. Abdominal computed tomography revealed rupture of the abdominal cyst, forming two posterior fistulous tracts that traversed the diaphragm, resulting in a pancreatic-pleural fistula and a large pleural effusion. Subsequently, there was organization of the collection with features of an intrathoracic pseudocyst (Fig. 2), adjacent to the previously existing subdiaphragmatic collection (Fig. 1), with no clear evidence of communication between them. Magnetic resonance cholangiopancreatography (MRCP) demonstrated pancreatic ductal calculi and heterogeneous content within the thoracic collection, consistent with compartmentalized necrosis (Fig. 3A). Endoscopic retrograde cholangiopancreatography was performed, and a stent was placed in the pancreatic duct to facilitate drainage. The pleuritic pain improved, but dyspnea persisted and fever developed. Subsequent tomography revealed the presence of gas within the thoracic pseudocyst (Fig. 3B). The surgical team opted for percutaneous drainage of the abdominal pseudocyst, removing a moderate amount of purulent fluid, resulting in improvement of respiratory and abdominal symptoms.

FIGURE 1
Previous non-contrast abdominal CT scan of the patient showing a left subdiaphragmatic pseudocyst.

FIGURE 2
Contrast-enhanced chest and abdominal CT scan showing the formation of an organized intrathoracic fluid collection with peripheral enhancement, causing atelectasis of the left lung base. The subdiaphragmatic collection persists without signs of communication between them.

**FIGURE 3**

A - A Coronal T2-weighted MRCP image demonstrates a heterogeneous subdiaphragmatic collection, consistent with walled-off necrosis, and the organized collection in the left pleural cavity with characteristics of a pseudocyst.

B - Subsequently, contrast-enhanced chest tomography shows the emergence of gas within the thoracic pseudocyst due to an infectious complication.

**DISCUSSION**

Pancreatic pseudocysts are common following chronic pancreatitis (20-25%) and acute pancreatitis (7-25%), with alcoholic etiology being the main cause (1). Extra-abdominal locations, such as mediastinal pseudocysts, are rare and can present with dyspnea and chest pain (2,3). Pancreatic-pleural fistulas are very rare (2.3-4.5% of pseudocyst cases) and typically result in large, refractory, and recurrent pleural effusions (2). The first-line treatment for symptomatic pseudocyst is based on endoscopic drainage and stent placement to facilitate the drainage of accumulated fluid (4). This procedure was performed in the described case by the assisting medical team. In the described case, the development of an intrathoracic pseudocyst from the fistulization of an abdominal pseudocyst into the
pleural cavity is extremely rare, with no similar reports found in PubMed until 2023.

REFERENCES


