MDCT Manifestations of Mediastinal Pancreatic Pseudocyst Mimic Hiatus Hernia: a case report

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Mediastinal pancreatic pseudocyst is rarely a complication of pancreatitis. Both the syndrome itself and diagnostic chest radiograph can easily be confused with hiatus hernia. It is a challenge for radiologists to distinguish a mediastinal pancreatic pseudocyst from a mediastinal cystic lesion on CT (computed tomography) axial imaging. Here, we present the case of a 51-year-old man with severe epigastralgia, vomiting and nausea. Chest radiograph and axial CT imaging revealed a posterior mediastinal cystic mass which could be mistaken as hiatus hernia. Using MDCT (multidetector computed tomography) coronal and sagittal images, it is easy to distinguish between a mediastinal lesion (e.g., hiatus hernia) and the pancreas, and thus it is possible to distinguish a mediastinal pancreatic pseudocyst.

CASE REPORT

A 51-year-old man suffered from severe epigastralgia, vomiting and nausea for several days and a body weight loss of 3 kg in one month. According to the patient’s statement, he had been diagnosed with chronic pancreatitis and gallstones for a long time and acute exacerbation more than one year ago. Physical examination disclosed no significant abnormality either in palpation or auscultation. Laboratory data also showed no obvious abnormality (WBC: $8.9 \times 10^3$/μL; RBC: $3.81 \times 10^6$/μL), with normal readings for serial amylase and lipase (amylase: 52 U/L; lipase: 17 U/L). Chest radiographs revealed an opacity with a well-defined border in the posterior mediastinum (Fig. 1). From the above findings, the first impression is hiatus hernia by the clinic physician. The CT axial image showed a cystic lesion that was $65.9 \times 73.8$ mm in size between the heart and vertebral body with a barely defined origin. MDCT reconstructed coronal and sagittal image (Fig. 2, 3), should that the lesion originated from the pancreas, extending through the esophageal hiatus into the mediastinum. A pancreatic pseudocyst was considered. It was easy to distinguish this lesion from hiatus hernia, duplication cyst or bronchogenic cyst by MDCT. The patient was transferred from the department of gastroenterology to the department of chest surgery. After mediastinotomy and drainage, the diagnosis of pancreatic pseudocyst was verified. The patient was followed-up in the gastroenterology department and exhibited an uneventful recovery.

DISCUSSION

A pancreatic pseudocyst is a localized collection of pancreatic fluid and inflammatory exudates encapsulated by fibrous tissue. It can be resulted from acute pancreatitis, chronic pancreatitis, trauma...
Pancreatic pseudocyst mimics hiatus hernia

Pancreatic pseudocyst is usually located in the lesser sac. Retroperitoneal and intraparenchymal lesions have also been reported [1, 2]. Mediastinal pancreatic pseudocyst is a rare thoracic complication of pancreatitis [1, 2], with only a few cases being mentioned in the literature [1].

Extension of the pancreatic fluid to the mediastinum may occur through the hiatus of the esophagus, aorta or inferior vena cava. Rarely, it may traverse the foramen of Morgagni, or directly invade through the diaphragm [3, 4]. The location of the pseudocyst in our case was around the esophagus, suggesting that it extended along the esophageal hiatus. In addition to the mediastinal cyst, according to prior reports [4, 5], a matured fistula tract may develop from the pancreas to the pseudocyst. This construct may not be easily seen by CT or ERCP, but can be identified at the time of surgery [6-8]. In our case, a pancreatic pseudocyst from the pancreatic body through the esophageal hiatus and extending into the mediastinum was found (Fig. 3).

The mediastinal cystic mass has a wide range of differential diagnosis. Various lesions should be considered, such as bronchogenic cysts, duplication cysts of the esophagus, neurenteric cysts, pericardial cysts, thymic cysts, meningoceles, abscesses, lymphangiomas and hiatal hernia [9]. However, with meticulous image evaluation in the context of related clinical history, it is possible to make a correct diagnosis of mediastinal pancreatic pseudocyst.

The diagnostic approach to distinguish a mediastinal cystic lesion includes cyst content analysis and meticulous anatomic and morphologic evaluation with different image modalities [10]. In the

Figure 1. A 51-year-old man complaining of epigastralgia, vomiting and nausea with chronic pancreatitis. Chest radiograph (AP and lateral view) showed an opacity (arrow) superimposing the left lower lung and the left diaphragm.

Figure 2. The axial contrast-enhanced CT image revealed a cystic lesion over the mediastinum and upper abdomen.
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In the setting of pancreatic pseudocyst, it is important to search for the continuity of the cyst with the pancreas. Since cyst aspiration is sometimes difficult to perform, imaging evaluation is inevitable for a definite diagnosis.

While chest roentgenography findings are commonly nonspecific, both CT and MRI (magnetic resonance imaging) help to confirm the location of the cystic lesions and their relationship with subphrenic organs. MDCT with MPR (multiplanar reformation) [6, 7] images in the setting of high spatial resolution are especially helpful for this specific purpose. Magnetic resonance cholangiopancreatography (MRCP) is useful in some cases, as it can clearly reveal the connection between the mediastinal and abdominal pseudocyst which may not be identified on a CT scan [6].

In conclusion, in the setting of mediastinal cystic lesion in a patient with a prior history of pancreatitis, pancreatic pseudocyst should be considered. A proper imaging diagnosis depends on a demonstration of the connection of the lesion with the pancreas, which can be ascertained with MPR reconstruction images of MDCT.

REFERENCES


Figure 3. The MDCT contrast-enhanced sagittal image a. and coronal image b. revealed a cystic lesion that originated at the pancreas (black arrow) and extended to the mediastinum. Note the scattered calcifications in the pancreatic parenchyma and dilatation of the pancreatic duct indicating chronic pancreatitis.
胰臟偽囊腫擬裂孔性疝氣：病例報告

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縱隔胰臟偽囊腫是很少見的胰腺炎併發症。它的綜合症狀和胸部 X 光影像很容易地與裂孔性疝氣混淆。在電腦斷層軸向影像，縱隔的胰臟偽囊腫是對醫師臨床診斷的挑戰。我們在此介紹一位 51 歲男性以上腹痛、嘔吐和噁心表現。胸部 X 光影像和軸向電腦斷層影像顯示後縱隔囊狀病變。此縱隔囊狀病變與裂孔性疝氣影像不易區分。但使用多切面電腦斷層重組影像，就很容易地知道縱隔囊狀病變與胰臟的關係，進而區分裂孔性疝氣。