

A rare case of pancreatic mediastinal pseudocyst

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Abstract

Pancreatic pseudocysts are the most common cystic lesions of the pancreas, accounting for 75-80% of such masses. Pancreatic pseudocyst with mediastinal extension is a rare clinical entity and only a handful cases report on dysphagia associated with mediastinal pseudocyst formation.¹ We present a case of pancreatic mediastinal pseudocyst that presented with palpitations and dysphagia. Demonstration of cystic lesion in relation to the pancreas on ultrasound and mediastinal extension of the cyst on CT suggested the diagnosis.

Key words: pseudocyst, mediastinal cyst, pancreas

A 45-year-old male presented with dysphagia, exertional dyspnoea, fatigue and palpitations for 20 days. Dysphagia was with both solid and liquid foods. He was a chronic alcoholic and had pseudocyst 2 years ago for which he underwent cystojejunostomy and jejunojejunostomy. He denied having diabetes, high blood pressure and heart disease. His physical examination revealed blood pressure 100/60 mm Hg, pulse 98/min. Cardiovascular examination revealed diffuse pulsation all over the precordium and an ejection systolic murmur at the apical region. His abdomen was soft, non-tender and no evidence of organomegaly. Respiratory and central nervous examinations were unremarkable. Emergency echocardiography did not reveal any pathology of the heart or aorta.

On laboratory investigation, his hemoglobin was 13.5 gm/dl (reference range: 11-15gm/dl), WBC 3700/mm³, ESR 25/ first hour, random blood sugar was 164mg/dl reference range: 70-110mg/dl). His serum electrolytes, blood urea and creatinine and liver function tests were within normal limits. Serum amylase level was 680U/L (reference range: < 95U/L). Chest radiograph showed a rounded retrocardiac mass (fig.1). Ultrasound abdomen showed a large cystic mass in the upper abdomen in relation to the body of the pancreas (fig.2). The cystic mass was behind the stomach displacing it anterosuperiorly. Another cystic area was demonstrated in the head of the pancreas. Pancreas was irregular in outline with large irregular dense calcifications throughout its extent. The findings were suggestive of large pseudopancreatic cyst secondary to chronic pancreatitis.

Computed tomography(CT) scan of the abdomen revealed evidence of large rounded thin walled nonenhancing hypodense area in the region of body and tail of the pancreas measuring 11.1 cm in transverse, 8.8 cm in antero-posterior and 20.0 cm in craniocaudal dimensions(fig.3. a, b, c and d). The mass was displacing the body of stomach anterosuperiorly and the small bowel loop along the left lateral abdominal wall. CT also revealed the extension of the cyst into the posterior mediastinum reaching at the level of left atrium. Based on CT findings, a diagnosis of pancreatic mediastinal pseudocyst was made. There was loss of normal pancreatic parenchyma. Calcification foci were seen over the head, body and tail of the pancreas. There was evidence of another nonenhancing hypodense area measuring 4.2x 3.3 cm seen in the head of the pancreas. In the view of the clinical picture and ultrasound and CT findings, pancreatic mediastinal pseudocyst was the clinical impression.

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Fig.1: Chest radiograph showing a large retrocardiac mass lesion.



Fig. 2: USG showing fluid collection in body of the pancreas extending superiorly.



Fig 3a

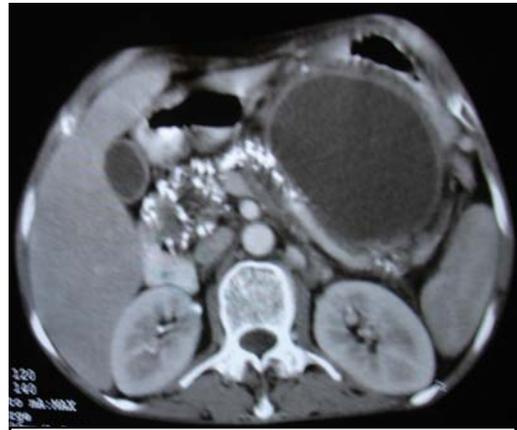


Fig 3b

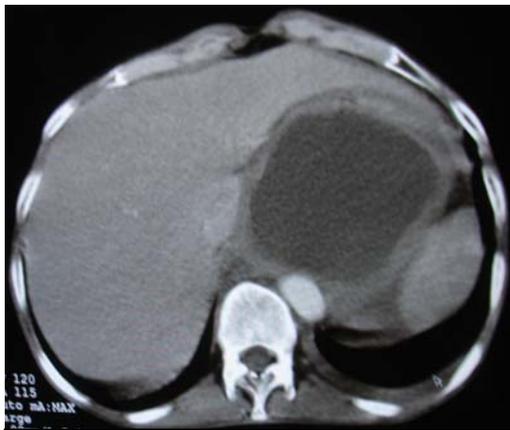


Fig 3c

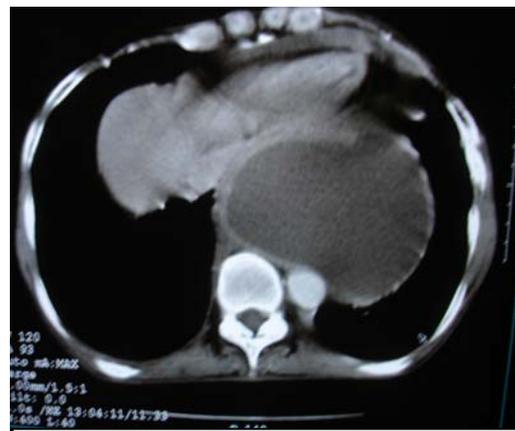


Fig 3d

Fig. 3: a, Plain CT scan showing two cystic lesions; bigger one arising from the body and tail of pancreas and smaller one arising from the head of the pancreas. Calcification in the pancreas is also seen. b, c, d, Contrast enhanced CT scan showing pseudocyst extending into the posterior mediastinum (from lower level to higher level)

Discussion

A pseudocyst is a collection of pancreatic secretions, blood and cellular debris, which often breaks through the pancreatic capsule and liberates the enzymes and pancreatic juice.² The unresorbed fluid collections can organize and, within 4-6 weeks develop a fibrous capsule, forming a pseudocyst.² The main causes of pancreatic pseudocysts are chronic alcoholism (75%) and abdominal trauma (13%), with cholelithiasis, pancreatic carcinoma, and idiopathic causes composing the remainder.²

The pseudocyst is bound to the pancreas by inflammatory tissue. Pseudocysts in chronic pancreatitis have a higher incidence as compared to acute pancreatitis.⁴ They can be single or multiple. Most cysts (90%) are single. They vary greatly in size, are rounded or oval, and are located either within the pancreatic gland, or outside it. The most common site of involvement is the lesser sac. However, an enlarging pseudocyst dissects along the planes of least resistance and may extend through anatomically preformed points of passage such as the aortic and esophageal hiatus or more rarely, the foramen of Morgagni.³

Abnormal physical findings have mainly been limited to those associated with pleural effusion. Although abdominal masses are regularly palpable in patients with pancreatic pseudocysts limited to the retroperitoneum, decompression of the pseudocyst through the diaphragm usually renders it imperceptible to palpation.⁵ A typical though not specific radiological finding is anterior and lateral displacement of the lower thoracic esophagus on barium study.⁶ Ultrasound is a very useful investigation for diagnosing pancreatic pseudocysts. Owing to the difficulty of scanning beneath the sternum, ultrasound may not be able to demonstrate the superior extent of the mediastinal extension.³ Pancreatic pseudocysts appear as well defined smooth walled structures associated with acoustic enhancement of ultrasound examination. On Computed Tomography (CT) scan, they are characterized by low fluid density contents and by a peripheral fibrous capsule and extending into the posterior mediastinum. In our case, extension was seen into the posterior mediastinum, extending from the posterior and superior aspect of the pancreas and reaching up to the level of the right atrium.

The clinical significance of a pseudocyst is related to its size and to potentially lethal complications that may occur. Pseudocyst may displace or compress the adjacent organs and can produce the symptoms related to that organ. In our case, dysphasia was one

of the presenting complaints due to compression of the esophagus with the pseudocyst. Spontaneous rupture, erosion into an adjacent vessel or secondary infection of the cyst is other complications of the pseudocyst.²

The aim of medical treatment of pseudocyst is the avoidance of complications. The choice of a drainage procedure depends on the size, number, location, presence or absence of communication with the pancreatic and bile duct, and presence or absence of infection. Conventionally, a large symptomatic and unresolved pancreatic pseudocyst is treated surgically by internal drainage to a neighboring adherent viscus such as the stomach, duodenum or jejunum.⁷ It is now possible to drain a pseudocyst of the pancreas effectively by noninvasive methods such as percutaneous catheter drainage or endoscopic drainage, which may be either transpapillary (via ERCP) or transmural.⁸

Conclusion

The extension of a pancreatic pseudocyst into the mediastinum is an uncommon clinical entity, which can present with cardiac and gastrointestinal symptoms. The clinical presentation, features of pancreatitis with pseudocyst on ultrasound and CT, raised serum amylase and demonstration of mediastinal extension of the cyst on CT helped to clinch the diagnosis. Correct preoperative diagnosis is important for proper surgical treatment, since a mediastinal pseudocyst is best managed without thoracotomy.

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