Mediastinal Extension of Pancreatic Pseudocyst

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ABSTRACT
Pseudocyst is a well-known complication of pancreatitis. However, extension of pancreatic pseudocyst into mediastinum is a rare occurrence. Here we present a case of 21 year old lady who had complaints of pain abdomen, dyspnoea, dysphagia and cough along with a past history of an episode of acute pancreatitis. Chest radiograph showed a retrocardiac opacity. CT and MRI of chest and upper abdomen revealed an elongated cystic lesion extending from body of pancreas into mediastinum through the esophageal hiatus. Fluid analysis showed very high level of amylase. Hence it was finally diagnosed as pancreatic pseudocyst with mediastinal extension and was treated surgically by cystogastrostomy procedure.

Keywords: Pancreatic pseudocyst; Mediastinal extension; Pancreatitis; Complication

INTRODUCTION
Pseudocyst of pancreas occurs due to increased intraductal pressure resulting from obstruction of pancreatic duct. Stricture and stone are common causes of pancreatitis that result in duct obstruction. Pseudocyst occurs as a complication of 7%-15% cases of acute pancreatitis and 20%-25% of cases of chronic pancreatitis. Approximately 50 cases of mediastinal extension of the pancreatic pseudocyst are reported in the literature.[1] Here we present an interesting case of a young lady who was diagnosed with pancreatic pseudocyst having mediastinal extension.

Case Report:
A 21 years old lady, degree student, presented with symptoms of pain upper abdomen, breathlessness, dysphagia and cough for 2 months duration. She had a history of an episode of severe epigastric pain 6 months back and was diagnosed with acute pancreatitis. She had recovered completely after medical management at that time. Upon presentation, she was conscious and oriented, vitals stable. Abdominal examination showed tenderness in epigastric region. Bowel sounds were normal.

Blood routine showed mild leucocytosis. Liver and renal functions were within normal limits. Chest radiograph (postero-anterior and lateral views) showed a well-defined homogeneous opacity in retrocardiac region on right side [Fig-1]. CT chest and upper abdomen revealed a well-defined thin walled fluid attenuation lesion in the body of pancreas measuring 20 cm (craniocaudal) x 4.3 cm (anteroposterior) x 6.4 cm (transverse) with a small amount of settled debris. On post-contrast scan there was no enhancement. It was found to extend into mediastinum occupying its middle and posterior compartments, on right side. The cyst was compressing and displacing the esophagus towards...
left, superiorly reaching up to 7th thoracic vertebral level. It further extended into right paravertebral region causing atelectasis of adjacent lung and minimal pleural effusion [Fig-2]. Subsequent chest and upper abdomen MRI scan confirmed our findings and better defined the relation of the pseudocyst with adjacent structures [Fig-3]. Rest of the pancreas was normal. The final diagnosis was pancreatic pseudocyst with mediastinal extension. It was treated surgically by cystogastrostomy procedure and fluid aspirated during the procedure was sent for cytological analysis. It revealed very high levels of amylase, confirming the diagnosis.

**Fig-1a and 1b:** Chest radiograph (posteroanterior and lateral views) showing a well-defined homogeneous retrocardiac opacity on right side (yellow arrows).

**Fig-2a and 2b:** Contrast enhanced CT showing well defined non enhancing elongated fluid collection extending into mediastinum on right side (yellow arrows).

**Fig-3a and 3b:**
Fig 3a and 3b: T2 coronal and T2 FATSAT axial sections showing a cystic lesion with settled debris, extending into mediastinum through the esophageal hiatus and compressing the esophagus.

Discussion:

Pseudocyst of pancreas is described as a collection of pancreatic secretions surrounded by a fibrous capsule usually found in or around the pancreas (there is no epithelial lining as seen in true cyst). Interesting features in our case were large size, delayed presentation and visualization of the cyst directly extending into the mediastinum from retroperitoneum. Acute pseudocyst is differentiated from acute fluid collection by the presence of well defined wall in pseudocyst. Revised Atlanta classification is used to distinguish acute peripancreatic fluid collection (less than 4 weeks after onset) and pancreatic pseudocyst (more than or equal to 4 weeks after onset). These occur as complications of interstitial edematous pancreatitis. Pseudocyst is also a common complication of chronic pancreatitis where the pseudocyst is formed without any preceding attack of acute pancreatitis.[2]

Mediastinal pseudocyst is a rare occurrence and the extension of pancreatic pseudocyst into mediastinum is much more rare.[3] Large pseudocysts may exert mass effect on adjacent organs resulting in dysphagia, congestive heart failure, pleural effusion due to obstruction of mediastinal lymphatics, respiratory compromise, pseudoachalasia and chest pain.[1,4] Complications of pseudocysts like hemorrhage, infection and rupture are known to occur contributing to worsening of patient’s condition.[5] Differential diagnosis of posterior mediastinal cystic lesions include neurenteric cyst, schwannoma, meningocele, hernia, and paraspinal abscess.[6] Mediastinal pseudocysts are caused by pancreatic fluid tracking from the retroperitoneum through the diaphragmatic hiatuses into the mediastinum. Pancreatic duct rupture releases this fluid into the retroperitoneum. Most common routes are diaphragmatic hiatuses for esophagus and aorta.[7]

Mediastinal pseudocyst can be suspected when above mentioned symptoms are associated with history of acute or chronic pancreatitis. Initially a chest radiograph may show retrocardiac opacity as in our case. Imaging modalities for definitive diagnosis include CT, MRI chest and abdomen which show cystic lesion in the mediastinum. These investigations may also show its extension into abdomen and the relation with pancreas. USG guided aspiration of fluid and its analysis for amylase will confirm the diagnosis.[5] Treatment of medistinal pseudocyst by medical, surgical or endoscopic intervention is necessary as spontaneous regression is extremely rare. Surgical interventions like pancreatic resection, percutaneous drainage, and internal drainage are invasive and less preferable compared to endoscopic drainage; latter is less invasive than surgery with fewer complications and a superior overall outcome.[3,8]

Conclusion:

Mediastinal pseudocyst should be suspected in a patient presenting with dysphagia, pain upper abdomen and dyspnoea especially in those with clinical setting of pancreatitis. In our case the cause of pseudocyst appeared to be an episode of acute pancreatitis which occurred 6 months before the patient presented. Interestingly, the pseudocyst remained asymptomatic in spite of attaining huge size. Imaging modalities like CT and MRI are useful in timely diagnosis and to rule out other differential diagnoses of posterior mediastinal cysts. A non-enhancing thin walled cystic lesion in middle and posterior mediastinum extending intra-abdominally and showing its continuity with pancreas indicate definitive diagnosis. Elevated amylase level in the aspirated fluid will confirm the diagnosis. Timely diagnosis is important as complications can be life threatening. Minimally invasive technique like endoscopic drainage is preferred over surgical interventions.

References:


