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RESEARCH ARTICLE

MEDIASTINAL PANCREATIC PSEUDOCYST: A CASE REPORT

***Parveen Kumar**

Department of Radiodiagnosis and Imaging, Fortis Escort Heart Institute, New Friends Colony, New Delhi 110025, India

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**Corresponding author:*
Parveen Kumar

ABSTRACT

Mediastinal pancreatic pseudocyst is a rare complication of acute or chronic pancreatitis. It results from tracking of pancreatic fluid through diaphragmatic hiatus into the mediastinum. Herein, we report a case of mediastinal pancreatic pseudocyst in a 50-year-old man with a history of chronic pancreatitis. The patient complained of dysphagia and upper abdominal pain. Contrast enhanced computed tomography (CECT) revealed acute on chronic pancreatitis and a large posterior mediastinal pancreatic pseudocyst. CT guided drainage was performed and a repeat CT scan after seven days showed almost complete resolution of the pseudocyst. High index of suspicion is needed for the diagnosis. Mediastinal pancreatic pseudocyst is a rare entity and can cause serious complications if left untreated.

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INTRODUCTION

Pseudocyst formation is a frequent complication of pancreatitis. These are often seen in peripancreatic, perihepatic, perisplenic, pararenal and lesser sac regions. Extra-abdominal extensions of pancreatic pseudocystsare rare however there have been cases of mediastinal pseudocysts extending as far as retropharyngeal space, and along iliopsoas muscle to knee and scrotum (1-4). Mediastinal pseudocyst is rare with unknown incidence. It results from posterior pancreatic ductal disruption and ascends into mediastinum through diaphragmatic hiatus. The common presentations include dysphagia, chest pain and in extreme cases pericardial effusion, pericardial tamponade and respiratory distress. The definitive diagnosis is made on imaging. We report an unusual of mediastinal pseudocyst and discuss its clinical and imaging features.

Case Report: A 45 -year-old man, having history of chronic alcoholic pancreatitis with intermittent acute exacerbations over the last 7 years, presented with dysphagia, and upper abdominal pain. Clinical examination demonstrated upper abdominal tenderness. Laboratory tests revealed mild anemia (hemoglobin 11.0 g/dL). Serum electrolytes, renal function tests, liver function tests and cardiac enzymes were within normal range. Electrocardiogram revealed normal sinus rhythm. Serum amylase and lipase were elevated measuring 800U/L(Normal range 35-85 U/L) and 780 U/L (Normal range 0-160U/L) respectively suggesting acute pancreatitis exacerbation. On chest X-ray, mild volume of left sided pleural effusion was noted with aretrocardiac opacity (Fig.1) The lung field sappeared clear. In view of the history of chronic pancreatitis, upper abdominal pain and raised amylase/lipase levels, a provisional diagnosis of acute on chronic pancreatitis was made and CECT chest and upper abdomen was suggested. CECT revealed mildly bulky pancreas with thin rim of fluid around it. Main pancreatic duct was dilated and few tiny calcific foci were seen in parenchyma. Common bile duct and intrahepatic radicles appeared normal. Splenic artery showed a partially thrombosed pseudo aneurysm. A fluid collection with thin enhancing wall was seen in posterior mediastinum showing communication with pancreas through esophageal hiatus. The mass effect of collection was seen as mild indentation over left atrium. Mild volume of left sided pleural effusion was also seen. These findings were consistent with acute on chronic pancreatitis with a mediastinal pancreatic pseudocyst. CT guided percutaneous drainage was performed and patient was put on medical therapy. Arepeat CT scan after seven days showed almost complete resolution of the pseudocyst. The patient was discharged after two weeks of admission.

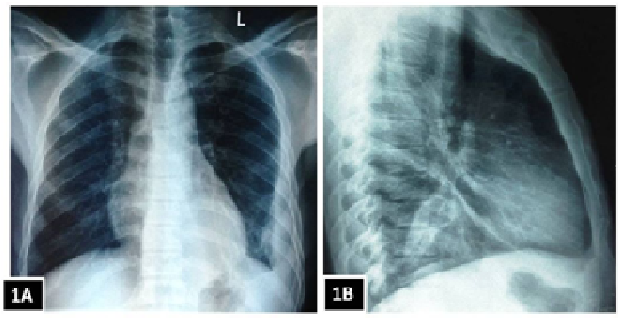

Fig.1 Case of a forty-five years old chronic alcoholic male with complaint of abdominal and chest pain. Chest radiograph PA view(A) shows an opacity in retrocardiac region on left side and left sided pleural effusion. On lateral view(B) the retrocadiac opacity apperas to lie in posterior mediastinum

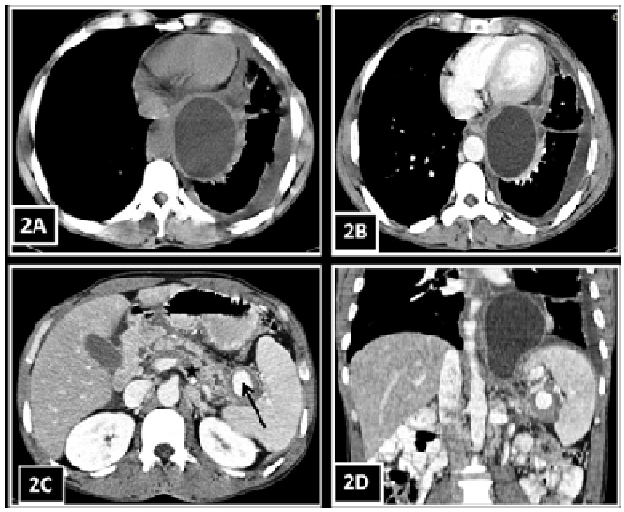

Fig.2 Axial non-contrast CT image(2A) shows left sided pleural effusion and a well-defined, cystic lesion in posterior mediastinum which enhances peripherally on contrast-enhanced axial image (2B). CECT axial imageat the level of pancreas(2C) shows mildly bulky pancreas with few non enhancing areas (aestrik), dilated pancreatic duct and peripancreatic fluid. Pseudoaneurysm of splenic artery is also seen(black arrow). Coronal reformatted image(2D) shows the extension of peripancraeatic collection into mediastinum along oesophageal hiatus

DISCUSSION

Pancreatic pseudocystisa common complications of acute or chronic pancreatitis. These are usually located within the pancreatic head and body, but extra-pancreatic locations such as liver, spleen, pelvis, pleura and mediastinum are also seen. Peripancreatic fluid collections spread along the preferential drainage pathways of least resistance and distends an already existing anatomic space. The leakage of fluid from the anterior parietal peritoneum distends the lesser sac while fluid leakage due to posterior pancreatic duct disruption spreads into retro peritoneum. Similarly, the fluid leaking from pancreatic tail fills the anterior pararenal space (5-6). Mediastinal pancreatic pseudocyst is a rare complication of acute and chronic pancreatitis, first described in 1951.It occurs as a result of posterior rupture of pancreatic duct into the retroperitoneal space. The fluid typically travels through the esophageal hiatus into posterior mediastinum. Less common extensions are also seen into anterior and middle mediastinum when these collection track through foramen of Morgagni and inferior vena cava hiatus respectively (7).

The common presenting symptoms of mediastinal pseudocysts include chest pain, dyspnea and dysphagia. The definitive diagnosis is made on imaging studies. CECT is the most commonly used modality. It can depict pancreatitis and the connection between the pancreas and mediastinal pseudocyst (8-9). Magnetic resonance imaging (MRI) and magnetic resonance cholangiopancreatography (MRCP) provide further details about the pancreatic and common bile duct (10). Endoscopic ultrasound (EUS) is helpful in evaluating the mediastinal cyst and allows therapeutic drainage (11). In our case, chest and abdominal CT revealed acute on chronic pancreatitis with a posterior mediastinal pseudocyst extending along esophageal hiatus. The most common complication of mediastinal pseudocystis pancreaticopleural fistula, however the life-threatening complications like haemoptysis, pericardial effusion, cardiac tamponade, cardiogenic shock, and acute respiratory failure are also known to occur (6).The proteolytic nature of pancreatic secretions can cause lethal complications if there occurs penetration into pericardium, esophagus or left atrium. Therefore, an early and accurate diagnosis of ascending pancreatitis is of paramount importance. The differential diagnosis of pseudocyst includes neuroenteric cyst, cystic schwannoma, meningocele, mediastinitis, mediastinal abscess and paraspinal abscess (12). The clinical presentation, raised serum amylase and demonstration of communication between mediastinal cyst and pancreas on CECT are help fulin clinching the diagnosis. There are many treatment options available to treat pancreatic pseudocysts depending upon size,location and severity of symptoms.Small cysts can be treated with somatostatin analogs and total parenteral nutrition. Large symptomatic cysts require drainage procedures and surgery. Drainage can be done under CT or ultrasound guidance through transesophageal, trans-gastric or trans-papillaryapproach. Surgical procedures include cystogastrostomy, cystojejunostomy, Puestow procedure and distal pancreatectomy (13-16)

Conclusion

Mediastinal pancreatic pseudocyst is a rare complication of pancreatitis. It results from posterior rupture of pancreatic duct into retro peritoneum. CECT plays an important role in the diagnosis. The involvement of posterior mediastinal vital structures like heart, aorta and esophagu scan be life threatening and hence an early and accurate diagnosis of mediastinal pseudocyst is essentially important to safeguard patient life.

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