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Case Report:

Chronic Pancreatitis Presenting as Recurrent Pleural Effusion

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Abstract: Chronic Pancreatitis presenting as recurrent pleural effusion is an uncommon and often unrecognized clinical syndrome. The effusion frequently occurs without clinical evidence of pancreatitis, but occasionally it may be associated with calcification and pseudocyst of the pancreas. They usually presents as an exudative effusion of unknown cause and characterized by very high levels of amylase in the pleural fluid. In this report, a case of massive pancreatic pleural effusions are presented which was recurrent initially right sided and few month later left side.
Key Words: Hemorrhagic pleural effusion; Pancreatitis; Recurrent.

Introduction

Pleural effusion is an uncommon complication of pancreatitis. It is often left sided and associated with acute pancreatitis. Development of massive and recurrent haemorrhagic pleural effusion on one side followed by effusion on the opposite side after a relatively symptom free interval in a patient with no clinical evidence of pancreatic disease has been reported rarely.[1] This article reports recurrent hemorrhagic pleural effusion as the sole manifestation of pancreatitis in a 40 years old tribal male patient.

Case Report

A 40 years old tribal man from rural Wardha in Maharashtra presented to this hospital with cough and breathlessness since fifteen days. He also complained of left sided dull chest pain radiating to the back, cough with minimal mucoid expectoration, loss of weight over last 6 months. He also had pain in upper abdomen. There was no history of injury and any abdominal discomfort or pain. He was a non-smoker and chronic alcoholic probably consumed alcohol daily for the preceding eight years, but he stopped taking this since last 6 months. He gave history of taking anti-TB therapy for 6 months for right sided pleural effusion from outside hospital six month back. On examination, there was mild pallor, no lymphadenopathy and no hepatosplenomegaly. There was neither ascitis nor pericardial effusion. He had signs of massive pleural effusion on left side.

His liver function tests were normal. Hemoglobin was 9.8 g%, total leukocyte count 9,400/cmm, ESR 26mm in lst hour, fasting blood sugar level 102mg%. His X-ray chest revealed massive pleural effusion (L) with mediastinal shift to the opposite side (Fig. 1) and thoracentesis revealed hemorrhagic effusion with: amylase: 9940 U/L (serum amylase: 818 U/L), protein: 2.5 mg/dL (serum albumin: 4.1 mg/dL) and lactate dehydrogenase (LDH): 227 U/L (serum LDH: 335 U/L). Acid fast staining of pleural fluid and culture for Tuberculosis were negative. Mantoux test to 1 TU was 6mms. Bronchoscopy was normal and washings were negative for malignant cells and AFB. Due to markedly elevated serum and pleural fluid amylase abdominal CT scan was done. The imaging showed multiple calcifications with pseudocyst formation in the tail region extending towards left hemidiaphram.(Fig-2) Abdominal ultrasonography revealed a small septated cystic structure in the head of the pancreas which was edematous and suggestive of pseudocyst of acute pancreatitis. Intercostals drainage with Chest tube was done, during this period the clinical symptoms such as dyspnea and chest pain improved. The daily drain output was about 350cc at the first day of chest tube insertion but it decreased gradually. Patient was referred to surgical unit for possible ERCP or Magnetic resonance cholangio pancreatography (MRCP) for management of the calcification and pseudocyst. Patient refused to do so because of financial non affordability. We also lost follow up. The cause of pancreatitis could be alcohol in this case. He may be treated

with antitubercular drugs for previous pleural effusion because tuberculosis is most common cause of effusion in India.

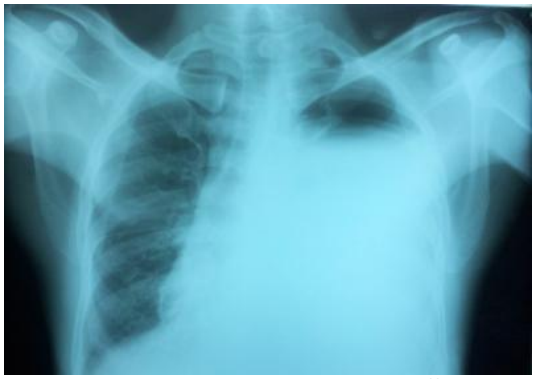

Fig 1: Chest X-ray showing massive pleural effusion (L) with mediastinal shift

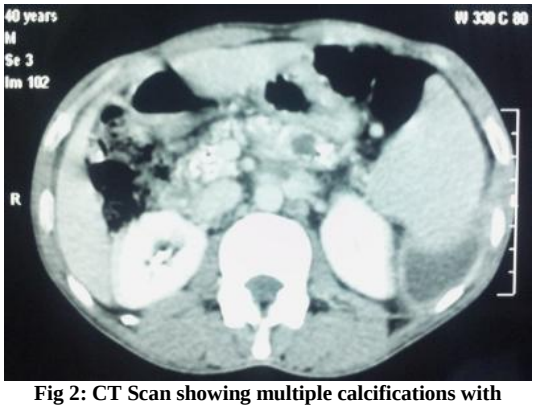

Fig 2: CT Scan showing multiple calcifications with pseudocyst formation in the tail region

Discussion

Association of pleuropulmonary complication like hemorrhagic pleural effusion with pancreatitis is well known but relatively uncommon. Common causes of hemorrhagic pleural effusion include Tuberculosis, trauma, Intrathoracic neoplasms, or bleeding diathesis[2]. The mechanisms for hemorrhagic effusions in pancreatitis may include transdiaphragmatic transfer of fluid via lymphatics, diaphragmatic perforation of pseudocyst and mediastinal extension and a fistula connecting a pancreatic pseudocyst with pleural cavity.[3,4] If the pancreatic duct disruption is posterior, an internal fistula may develop between the pancreatic duct and the pleural space, producing a pleural effusion (pancreaticopleural fistula) that is usually left-sided and often massive. If the pancreatic duct disruption is anterior, amylase- and lipase-rich peritoneal fluid accumulate (pancreatic ascites).[5]

Cause of pancreatitis in this case may be alcohol induced and reports have shown that pleural effusion with a very high pancreatic enzymes activity most frequently occurs in patients with alcoholic pancreatitis.[5] Pleural effusions due to pancreatic diseases are mostly reactive with slightly elevated amylase levels. Very high levels of amylase in the pleural fluid are rare and can only be explained by pancreatitis or rupture of a pancreatic pseudocyst with perforation into the pleural cavity such as by drainage of pancreatic fluid into the pleural cavity.[6] The other causes of pleural effusions with an increased amylase include esophageal rupture, malignancy, ruptured ectopic pregnancy.[2] In this case no such diaphragmatic perforation of pseudocyst or esophageal rupture was noted on CT scan of abdomen, though ERCP was not done due to non affordability. Possibility of high amylase content massive recurrent pleural effusion may be due to transdiaphragmatic transfer of fluid via lymphatics in our case.

In most cases, the pleural effusion occurs concomitantly with the signs and symptoms of pancreatitis, but may occur even after the acute abdominal symptoms have subsided. Considerable diagnostic problems may be encountered in cases in which the clinical picture is dominated by the pleuro-pulmonary symptoms, and the pancreatic condition remains completely or partly in the background.[7] An early and rapid diagnosis can be made by the examination of the pleural fluid for elevated amylase.

Conclusion

Pancreatitis should be taken into consideration when hemorrhagic pleural effusion occurs, especially when it is recurrent. Treatment with drainage by a chest tube, with concomitant conservative treatment of the pancreatitis, is usually effective in massive pancreatic pleural effusions. Morbidity and mortality are reduced when a definite diagnosis is established and appropriate therapy rendered.

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