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PANCREATICO PLEURAL FISTULA: MASSIVE PLEURAL EFFUSION

Gastroenterology

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ABSTRACT

Pancreatico - pleural fistula (PPF) is a rare complication of pancreatitis. we present a case of young male who presented with massive left sided pleural effusion due to ethanol induced pancreatitis. Pleural fluid analysis revealed elevated amylase and lipase which raised high index of suspicion of PPF. MRCP delineated the fistulous communication and helped in stratifying the appropriate management. Patient underwent ERCP and pancreatic stenting which resulted in complete resolution of the fistula.

KEYWORDS

INTRODUCTION:

Pancreatico -pleural fistula (PPF) has incidence of 0.4% in patients with chronic pancreatitis because of its low incidence, PPF is rarely considered as a cause of pleural effusion. Internal pancreatic fistula develops due to rupture of pancreatic duct posteriorly and the pancreatic secretions leaks into mediastinum which communicates with the pleural cavity and manifest as massive left sided pleural effusion. we present a case of Pancreatico pleural fistula in a patient with acute on chronic pancreatitis.

CASE REPORT:

Our patient 25 years old male, chronic alcoholic for the past 8 years presented to the emergency department with pleuritic chest pain, difficulty in breathing, cough and fever. On admission he was irritable, restless and dyspnoeic. Examination revealed tachycardia (HR-141/min), Respiratory rate ->35/min, 87% saturation in room air, decreased air entry on left hemi-thorax with stony dull note on percussion and diffuse tenderness over the abdomen. Blood parameters revealed anaemia, Sr. amylase-1121u/l, Sr. lipase -5247 u/l. Chest x-ray showed left sided massive pleural effusion with mediastinal shift to the right. Left intercostal drain tube was placed for the effusion and dark straw-coloured fluid of 1000ml was drained initially (Figure - 1). Patients saturation improved, tachycardia settled and symptomatically better following drainage of pleural fluid. Patient was managed with iv fluids, analgesics, antibiotics somatostatin analogue. Blood and urine culture did not grow any organism. Subsequently 200ml of pleural fluid was drained daily Pleural fluid analysis revealed exudative picture with elevated proteins -3g/dl, elevated pleural fluid amylase -64,550U/L and pleural fluid lipase-4,74,050 which raised the suspicion of PPF. CT abdomen showed acute and chronic pancreatitis, and could not delineate the fistulous communication. MRCP was done which revealed an 8 x 4 cm pseudo cyst communicating with pancreatic duct in one end and left pleural cavity on the other end. (Figure 2). In view of PPF, patient underwent ERCP with stenting of the proximal body of the pancreas. (Figure 3).

Left intercostal drain output decreased gradually and subsequently drain was removed. Repeat Chest Xray revealed complete resolution of the effusion (Figure 4) and patient was discharged in a stable condition.

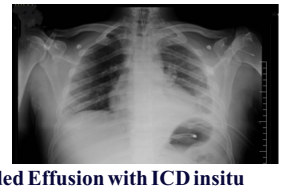

Figure 1: Left sided Effusion with ICD insitu

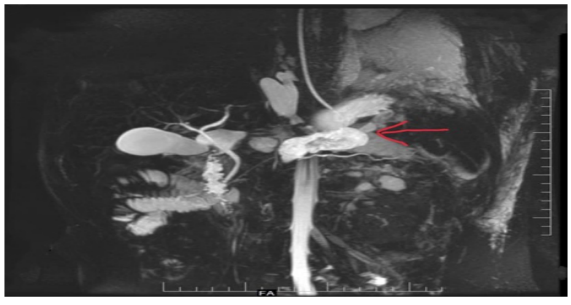

Figure 2: MRCP showing Pancreatico pleural Fistula

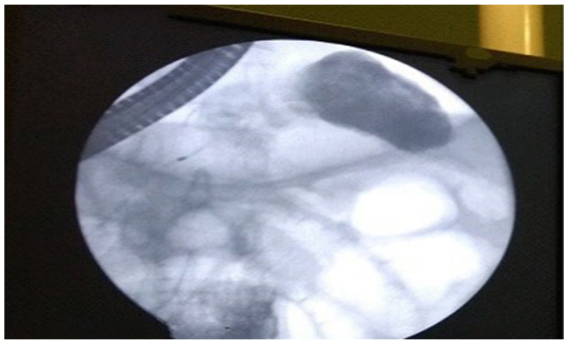

Figure 3: ERCP with stenting of the proximal body of Pancreas.

Figure 4: Repeat X-ray revealing complete resolution of the Effusion

DISCUSSION:

Pancreatitis is an inflammatory disease associated with local and systemic complications. Pancreatico pleural fistula has got 0.4% incidence rate in chronic pancreatitis and 4.5 % in pancreatic pseudocyst patients[1]. Fistulous communication occurs due to gall stones, trauma, anatomic anomalies and post-surgery [2]. The incidence of pleural effusion following pancreatic pleural fistula is rare (<1%) compared to pancreatic ascites.

When the pancreatic duct disruption occurs anteriorly, amylase and lipase rich pancreatic ascites develops. Whereas ductal disruption on the posterior aspect leads to internal fistula leading to pancreatic pleural fistula [3]. The fistulous track is incompletely formed following rupture of pseudocyst and in few cases, there is a direct pancreatic duct leak. The tract passes through aortic or oesophageal diaphragmatic apertures and in some cases, it communicates trans diaphramatically [(4,5)].

Pleural fluid analyses reveal elevated amylase and lipase level. Our patient's pleural fluid amylase levels were 64,550U/L and pleural fluid lipase-4,74,050, thus confirming the diagnosis of PPF.Normal pleural fluid amylase is less than 150 IU/L [(6)]. A pleural fluid amylase more than 4000 is diagnostic of PPF [(7)]. Amylase rich fluid can also be detected in mesothelioma, oesophageal rupture, acute or chronic pancreatitis, ruptured pseudocyst, Pancreatico pleural fistula [(8)]. Hence pleural fluid analysis combined with radiological investigation is essential to confirm the diagnosis and to stratify the plan of management accordingly.

CT abdomen has sensitivity of 47% while MRCP has high sensitivity of 80% [(9)]. In our patient CT abdomen couldn't delineate the fistulous communication. Whereas MRCP revealed necrotic pancreas with Pancreatico pleural fistula and collection of 8cm x 4cm in lesser sac. Hence, MRCP is the first investigation of choice in detecting PPF[(10)].

Once the diagnosis of PPF was made, ERCP was done, pancreatic duct was cannulated, however deep cannulation was unsuccessful as the guide wire repeatedly entered into the pseudo cyst which had communication with the main duct in the mid body. Hence it was decided to place a 5 fr 7cm single pigtail stent in the proximal body of the pancreas.

Post stenting, patient had a dramatic improvement in his general condition and repeat chest Xray after 4 days of the procedure revealed a complete resolution of the pleural effusion. Patient had been discharged and has been on regular follow up.

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