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CASE REPORT

AN UNUSAL PRESENTATION OF CHRONIC PANCREATITIS-CASE REPORT

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ABSTRACT

We herein report a case of Pancreaticopleural fistula, which is a rare clinical problem. It is seen rarely in acute and chronic pancreatitis or after pancreatic duct trauma. It poses a diagnostic challenge. It may be silent or can present with predominant chest or abdominal symptoms. The diagnosis should be suspected if a patient presents with pleural effusion in a setting of pancreatitis or alcohol intake. The significantly raised amylase in the pleural fluid offers an important clue to the diagnosis. Computed tomography is the initial imaging of choice, which defines the pancreatic as well as chest abnormalities. The therapeutic options include medical, endoscopic, as well as surgical interventions. Although, there is no data comparing the endoscopic and surgical interventions, patients are generally treated with medical and endoscopic therapies. Surgery is reserved for those who fail medical and endoscopic therapies.

INTRODUCTION

Intrathoracic complications are well known and its association in cases of Acute and Chronic pancreatitis is common. Pleural effusion due to pancreaticopleural fistula is extremely unusual accounting for less than 1% of cases (Burgess, 1991). It is seen in 3 to 7% of patients with pancreatitis (Materne, 2000), and a combined frequency of internal pancreatic fistula (pancreatic ascites and pancreaticopleural fistulae) is seen in between 0.4 and 7% of chronic pancreatitis patients and in 6 and 14% of patients with pseudocyst (Vyas, 2009 and Safadi, 2000). Pancreaticopleural fistulae are however more unusual than pancreatic ascites. It usually presents as large recurrent pleural effusion in either pleural space, but left-sided effusion is more common and are reported to account for 76% of cases (King, 2010 and Safadi, 2000). Chronic pancreatitis presents as Pancreatico-pleural fistula (PPF) in 4.5% cases but presenting with lung parenchymal involvement is very rare, and only few case reports have been published till date.

Case Report

A 37yr old male patient of acute pancreatitis, presented with history of cough for 15 days duration, associated with copious amount of foul smelling expectoration. Physical examination revealed tachycardia, along with Hypoxia. Respiratory System examination revealed a dull note in left infra axillary area on percussion and decreased intensity of breath sounds in left infra axillary area on auscultation. Laboratory investigations revealed a Hb of 8.1 g/dl with raised Total WBC's 12700 cells/mm³, with normal renal and liver function tests. Sputum AFB was negative and aerobic culture sensitivity revealed normal commensals. Chest X ray showed Left Lower Lobe cavity with fluid level. USG thorax showed minimal collection in left pleural cavities, he was managed conservatively with broad spectrum antibiotics. But cough persisted and he developed hemoptysis. CT thorax pre and post contrast study done revealed Left Lower Lobe Consolidation with Cavitation with free fluid collection suggestive of lung abscess, Right Middle Lobe Consolidation, and Features of Necrotizing Pancreatitis with Peri Pancreatic Collection. Surgical Gastroenterology opinion was taken. MRCP was done, which showed 0.2mm Pancreatico Pleural fistula with parenchymal extension.

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In view of persistent hemoptysis, patient underwent left lower lobectomy in consultation with CTVS and patient is now asymptomatic and on regular follow up.

Chest X Ray

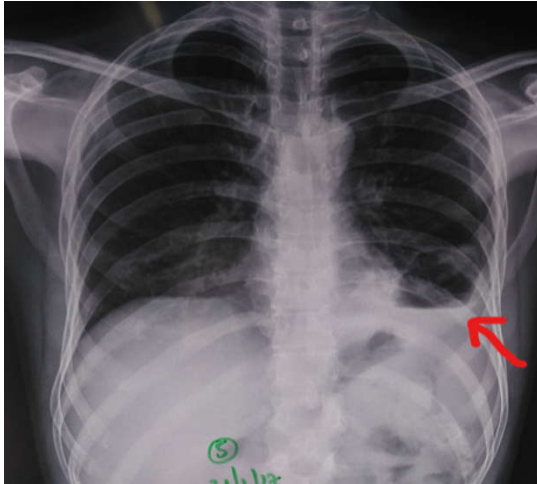


Figure 1. Left Lower Lobe Cavity Fluid Level

CT Pre and Post Contrast Study Report

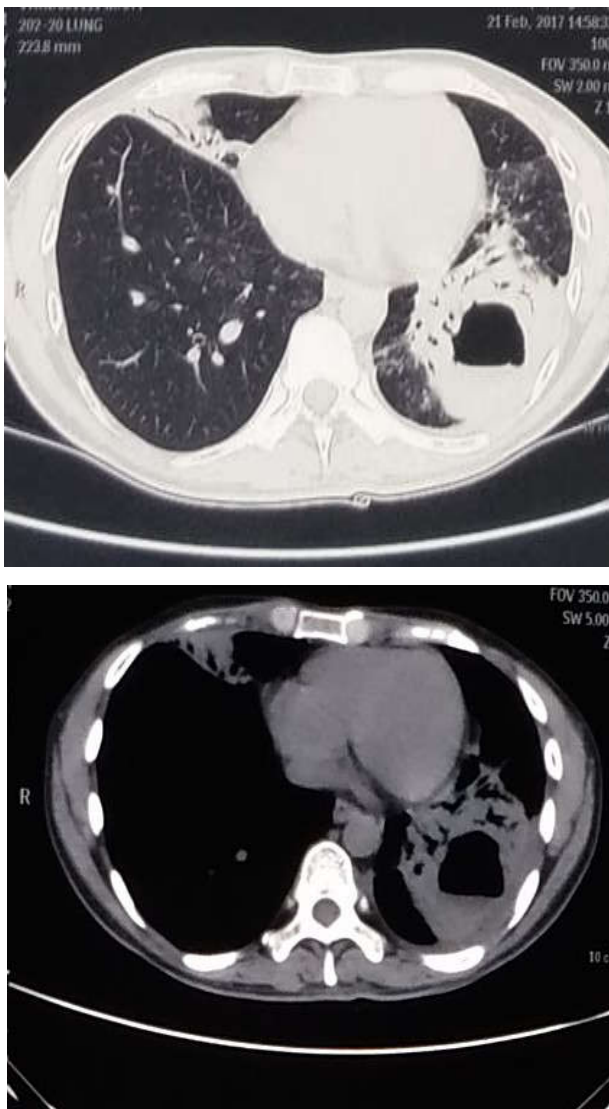


Figure 2. Left lower lobe consolidation with cavitation with free fluid suggestive of lung

abscess and features of necrotizing pancreatitis with Peri Pancreatic Collection

MRCP Report



Figure 3. MRI CISS 3d view showing pancreaticopleural fistula (2mm)

Histopathology Examination Report

Acute on Chronic Inflammatory Process with areas of Parenchymal Fibrosis.

DISCUSSION

The underlying mechanism for PPF is usually a leak from the pseudocyst, but a direct pancreatic duct leak also been reported. The fistulous tract passes either through the aortic or esophageal diaphragmatic orifices or directly, transdiaphragmatically. If pancreatic duct disruption develops posteriorly, the pancreatic secretions flow into the retroperitoneum and may dissect into the mediastinum through the aortic or esophageal hiatus and form a pleural fistula. Uncommonly a mediastinal pseudocyst ruptures into the pleural space and forms a PPF. If the disruption occurs anteriorly and is not walled off, a pancreatic-peritoneal fistula develops, which manifests as pancreatic ascites (Safadi, 2000; Burgess, 1991). Frequently the diagnosis is delayed (King, 2010; Sut, 2009; Dhebri, 2005; Vyas, 2009; Safadi, 2000 and Uchiyama, 1992). The time to diagnosis is reported to range from 12 to 49 days (Dhebri, 2005). Delay in diagnosis is a critical issue. It needs a high index of clinical suspicion in those with a history of acute pancreatitis and alcohol abuse presenting with a pleural effusion which reforms relatively rapidly after aspiration and for which there is no obvious other cause. A direct demonstration of this fistulous communication is difficult. An ultrasound is not a good imaging modality, as the bowel loops interfere with the image quality. A CT scan is very useful in determining the size of the effusion and also reveals changes of the pancreatitis. A CT scan may demonstrate the fistulous tract, especially if obtained immediately after an ERCP. Computed tomography has been done in most studies reporting PPFs, but it is able to demonstrate fistula only in 33-47% of the cases, because of limitation of resolution of the CT and the poorly enhancing walls of the fistula, which is usually masked within the pseudocysts (Ali, 2009). Magnetic resonance cholangiopancreatography (MRCP) is considered the investigation of choice for suspected PPF with a sensitivity of 80%. It provides information about the pancreatic duct beyond the stricture. In addition, a small pseudocyst, peripancreatic collection, and the PPF can be seen. It is useful where ERCP

fails, to give adequate information about the ductal anatomy (Vyas, 2009). Multiple pseudocysts or ascites limit the resolution of MRCP (Tajima, 2006). Pleural effusion in pancreatic disease occurs due to two mechanisms. The first is reactionary pleural effusion due to pancreatitis, which is usually small and left-sided (may be bilateral). It is characterized by a normal amylase level (< 1000 U/L) and low protein concentration (< 3 g/dl). (Branca, 2001). This type of effusion is seen in acute pancreatitis and resolves spontaneously, with recovery of the disease. The second type of pleural effusion in patients with pancreatitis is usually large, left-sided, recurrent, and has a high level of amylase (> 1000 U/L) and proteins (> 3 g/dl). This type of effusion is seen in both chronic and recurrent pancreatitis. In this type of effusion, fluid accumulates in the pleural cavity due to a fistulous communication between either a pancreatic duct or a pseudocyst and the pleura (Kaman, 2001). Therapeutic options for PPF include medical treatment, endoscopic management, and surgery.

The aim of medical treatment is to reduce pancreatic exocrine secretions. Somatostatin analogs are most commonly used along with thoracentesis and/or tube thoracostomy, which encourage the apposition of pleural surfaces. Medical treatment is usually attempted for two to three weeks. Endoscopic retrograde cholangiopancreatography has been used to treat PPF in cases where there is a leak from the main pancreatic duct without a proximal stricture. Therapeutic options at ERCP include endoscopic papillotomy, nasopancreatic tube placement, and placement of a stent in the main pancreatic duct. Surgery is usually considered in patients who fail conservative and endoscopic treatment (Safadi, 2000 and Burgess, 1991). Surgical treatment includes either pancreatic resection or enteropancreatic anastomosis to the site of pancreatic duct leakage or to the pseudocyst (Vyas, 2009 and Safadi, 2000). If there is an obstruction of the main pancreatic duct proximal to the fistula, surgical treatment is necessary to decompress the obstructed duct. Cystogastrostomy, cystojejunostomy, and distal and middle pancreatectomy are appropriate options in the setting of symptomatic pancreatic pseudocysts or pancreatic duct obstruction.

Conclusion

A high index of suspicion is often necessary given the very low incidence of lung parenchymal extension in a case of pancreatitis and can be easily mismanaged as persistent/recurrent pneumonia. Timely surgical intervention in selected cases may help patients be relieved completely of symptoms. Pancreaticopleural fistula should be considered as a diagnosis in cases of pleural effusion, in patients with chronic or recurrent pancreatitis. Pleural fluid amylase estimation is sufficient to establish the diagnosis. CT and/or MRCP are the main imaging modalities to demonstrate PPF. Treatment options are medical, ERCP, and surgery.

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