Presentation of pancreatic pleural effusion without abdominal symptoms

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Abstract: Signs and symptoms of disorder in the lungs may accompany acute and chronic pancreatitis. Such involvement is a valuable lead in the diagnosis of pancreatic inflammation and has been described in the literature. The pleuropulmonary complications of acute pancreatitis include pleural effusions, basal atelectasis, parenchymal infiltration, diaphragmatic elevation, bronchopleural fistula, pleural reaction, and adult respiratory distress syndrome. We present a case of pancreatic pleural effusion who presented with primary chest symptoms and without abdominal symptoms. A 43 year old female, who presented with retrosternal chest pain and left sided pleuritic chest pain and progressive dyspnea of 1 month duration diagnosed as exudative pleural effusion left side with pancreatico pleural fistula demonstrated in MRI Abdomen who improved with chest tube drainage for pleural effusion and conservative therapy for pancreatitis.

Keyword: pancreatic pleural effusion, abdominal symptoms, fistula

Case report
A 43 year old female patient presented with complaints of retrosternal chest pain, left sided pleuritic chest pain and progressive dyspnea Grade III MMRC at the time of presentation. On examination, respiratory movements were decreased on left side, vocal fremitus, vocal resonance and breath sounds were decreased on left hemithorax and a stony dull note on percussion was elicited.

Chest X ray revealed left massive pleural effusion.

Fig.1 Chest x ray PA view showing left massive pleural effusion with contralateral mediastinal shift.

Intercostal tube drainage was done to relieve patient’s dyspnea and pleural fluid was sent for analysis.

Fig 2 Post ICD chest x ray.

Pleural fluid examination revealed hemorrhagic exudative pleural effusion with amylase elevated to 1,01,000 U/L (Serum level – 2349 U/L). Subsequently medical gastro enterology opinion was sought and MRI Abdomen obtained. ERCP was deferred because of edematous ampulla and difficult cannulation. MRI Abdomen showed intrapancreatic necrosis/walled of necrosis, pseudocyst tracking from the tail of the pancreas to the pre-aortic region between esophagus and aorta and right para-esophageal region to the lower mediastinum posterior to the left atrium.

Fig 3. MRI Abdomen showing pancreatico pleural fistula from tail of pancreas to lower mediastinum.

ICD tube was removed after 6 days. The patient improved with conservative medical management for pancreatitis and discharged under stable condition and is under follow up.

Discussion
Chronic massive pancreatic pleural effusion is an uncommon and often unrecognized clinical syndrome which results from an internal pancreatic fistula and usually presents as an exudative effusion of unknown cause. The effusion frequently occurs without clinical evidence of pancreatitis, but occasionally it may be associated with a pseudocyst of the pancreas. Chronic massive pancreatic pleural effusion is usually recurrent and characterized by very high levels of amylase in the pleural fluid. Morbidity and mortality are reduced when a definite diagnosis is established and appropriate therapy rendered.

Alternatively, direct contact of pancreatic enzymes with the diaphragm may lead to rupture or perforation. In some cases, a pancreatico-pleural fistula can be demonstrated either by endoscopic retrograde Cholangiopancreatography or by computed tomography or by the injection of contrast medium in the pleural cavity. Fistula is commonly associated with pancreatic pseudocyst and obstruction of the main pancreatic duct. The pseudocyst can also rupture into the pleural cavity and, on ultrasonography, no pseudocyst may be seen in the pancreas. Pancreatic secretions probably leak into the retroperitoneal space and track upwards beside the aorta and oesophagus.
through the diaphragmatic hiatus into the mediastinum.

Occasionally, secretions are contained within the mediastinum presenting as a mediastinal pseudocyst or it may rupture into the pericardium, but usually there is penetration into the pleural cavity. A major pitfall in the diagnosis and management of chronic massive effusion is failure to recognize that intra-abdominal disease is responsible for the pleural effusion. Patients are often diagnosed to be suffering from tuberculous effusion and are put on prolonged chemotherapy with no avail.

**Conclusion**

The clue to the diagnosis of pancreatic pleural effusion—the high level of amylase in pleural fluid—along with elevated serum amylase level must be looked for. Some degree of elevation of amylase level can also occur in thoracic neoplasms, both primary and secondary. Also, very high levels are seen in oesophageal rupture but the clinical presentation and natural history make it easy to differentiate these conditions.

**References**
