Pancreatico Pleural Fistula: An Unusual Complication of Chronic Pancreatitis

Abstract
Pancreatico-pleural fistula secondary to chronic pancreatitis is a rare cause of pleural effusion. This case report presents a case of a middle aged female, a known case of chronic pancreatitis who presented with severe epigastric pain and progressive shortness of breath. CT and MRCP were useful in visualising the fistulous communication between the pancreas and pleural cavity. Treatment consisted of ERCP placement of a pancreatic stent, which facilitated internal drainage of pancreatic fluid thus resolving the pleural effusion and promoting healing of the fistula.

Case Report
A 51 year old female with ethanol dependency syndrome and chronic pancreatitis, presented to the emergency department with a four day history of progressively worsening dyspnoea and epigastric pain. The pain was of gradual onset, radiating to the back. It was constant in nature. 8/10 on the visual analogue scale with no aggravating or alleviating factors identified. She was jaundiced and mildly pyrexial (37.4 °C). On examination, there was tenderness in the epigastric region with reduced air entry at the right base and a stony dull note on percussion. Radiography of the chest revealed a right pleural effusion and right pneumothorax. A pleural drain was inserted under ultrasound guidance. Although the pneumothorax improved, the pleural effusion persisted. Diagnostic tapping of the fluid showed an exudate with an amylase level 33,803 IU/L. No organisms including acid fast bacilli were cultured. No malignant cells were found on cytology.

Endoscopic ultrasound showed a 4.5cm cystic lesion in the neck of the pancreas consistent with a pseudocyst. Both Computed Tomography (CT) of the Chest and Abdomen and Magnetic Resonance Cholangiopancreatography (MRCP) demonstrated the presence of the cyst with accompanying biliary tract dilatation. The patient subsequently underwent Endoscopic Retrograde Pancreaticography (ERCP), which revealed a communicating pseudocyst in the uncinate process of the pancreas and dilatation of the main pancreatic duct, with extension of contrast from the apex of the cyst into the pleural cavity. The ERCP findings along with the pleural fluid analysis and clinical background confirmed the suspicion of a pancreatico- cysto- pleural fistula. As a result, a 7 French 5 cm stent was inserted from the pseudocyst to the second portion of the duodenum for drainage, followed by a five day course of antibiotics. The effusion resolved and the stent was removed without recurrence of the effusion.

Discussion
Pleural effusion is uncommon in chronic pancreatitis. It is seen more frequently in acute pancreatitis (3-17%) where it is usually left sided, small and inflammatory in nature. In this report a right sided pleural effusion occurred as a consequence of a fistulous tract between the pancreas and pleural space with pseudocyst formation. This is a rarity in pancreatitis with a reported incidence of 0.5-4.5%. Here, the presence of a recurrent and refractory pleural effusion in the setting of chronic pancreatitis raised the suspicion of a pancreatico-pleural fistula. The pleural effusion was of significant concern but increased, however other causes of raised pleural fluid amylase should be ruled out i.e. pulmonary tuberculosis, lung carcinoma, oesophageal perforation etc. Imaging plays a pivotal role in identifying the presence of a pancreatico-pleural fistula. CT demonstrated duct dilatation in the presence of a pseudo cyst, followed by MRCP which highlighted finer detail of parenchymal and ductal anatomy. However, as MRCP has the disadvantage of a lack of therapeutic options, ERCP was essential in the management of this patient with the placement of a stent with internal drainage.

Pancreatico-pleural fistula can be managed medically or surgically but owing to its rarity, no controlled trials have been undertaken in this area. Medical treatment with a somatostatin analogue is an option but there is no consensus as to the duration of treatment. Interventional treatment such as the placement of an endoprosthesis in the pancreatic duct was the option used in this case. Surgical intervention in the form of distal pancreatic resection is reserved for recurrent pancreatico-pleural fistula. Pancreatico-pleural fistula is a rare complication of chronic pancreatitis, however there should be an index of suspicion for it in patients presenting with pancreatitis and pleural effusion. CT and MRCP are useful for diagnosis. ERCP placement of a pancreatic stent facilitates internal drainage of pancreatic fluid thus resolving the pleural effusion and promoting healing of the fistula.

References

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