



Recognition and Successful Treatment of Pancreaticopleural Fistula with Octreotide

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Introduction

Pancreaticopleural fistula (PPF) is a rare complication of chronic pancreatitis. The disruption of the pancreatic ducts results in the leakage of pancreatic fluid, which can lead to a pathological connection between the pancreas and pleural space.

Case

A 61-year-old male with past medical history of alcohol abuse presented with left-sided chest pain associated with exertional shortness of breath and left upper quadrant abdominal pain. Pertinent findings included diminished breath sounds on the left lower lung field and epigastric and LUQ abdominal tenderness.

Lab studies showed leukocytosis with neutrophilia, and elevated amylase (701 U/L) and lipase (1560 U/L). Chest (Figures 1 & 2) and abdominal (Figures 3 & 6) CT scans were significant for a large left-side pleural effusion measuring 16 x 6.5 x 5.5 cm, peri-splenic fluid collection measuring 6 x 3 x 6 cm, pancreatic calcifications, and thrombus within the portal vein. CT guided drainage of left pleural and sub-phrenic fluid collections were performed. Pleural fluid analysis was consistent with exudative effusion with an LDH level of 2812.0 U/L, and amylase level of >96,000 U/L. The peritoneal collection was also found to have a similarly high amylase content of >96,000 U/L and a LDH level of 528 U/L, which brought up the suspicion for the connection between the pancreas and the inter-pleural space.

The pancreaticopleural fistula was subsequently confirmed by MRCP that showed a pancreatic stone in the distal duct of the pancreatic tail, which resulted in the obstruction of the duct leading to back flow of the pancreatic fluids and the creation of the fistula that was visible on MR imaging (Figures 4 & 5). Endoscopic management was impractical as the pancreatic stone was located too distal for successful pancreatic duct cannulation. The patient continued to abstain from alcohol and was also treated with octreotide. He improved and did not need any surgical treatment. Follow-up CT scan showed resolution of fluid collections in the pleura and abdomen. If he had not improved, distal pancreatectomy would be needed.



Figure 4: Coronal view MRI with contrast showing a sinus tract extending from distal pancreas into left hemidiaphragm to loculated region of pleural collection.

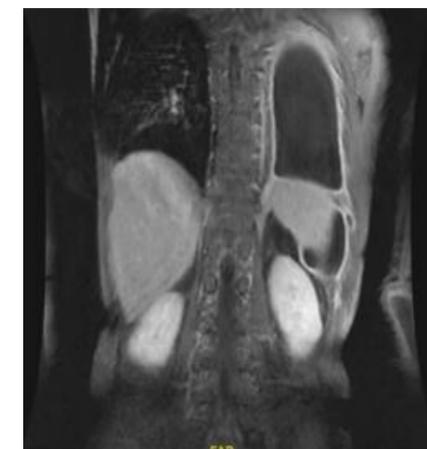


Figure 5: Coronal view MRI with contrast showing multilocular collections both above and below the level of the left hemidiaphragm.



Figure 6: Sagittal view of CT abdomen with contrast showing left pleural and sub-phrenic fluid collections. The left pleural fluid collection extends from the level of the aortic arch to diaphragm spanning approximately 16 x 6.5 x 5.5 cm.

Discussion

Pleural effusion often occurs in acute and chronic pancreatitis, but further investigation of pleural and peritoneal fluid collections containing high levels of amylase is important for recognizing PPF. If there is an obstruction in the pancreatic duct, it may be treated endoscopically. If this is not possible, as in our case, octreotide may treat this condition effectively. Medical therapy fails in about 30% of patients necessitating surgical treatment.

References

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Figure 1: Axial view of Chest CT without contrast showing large pleural fluid collection in left thorax extending from aortic arch to diaphragm.

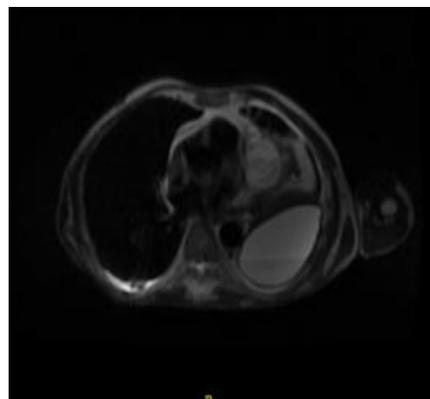


Figure 2: Axial view of CT Chest without contrast showing left pleural fluid collection.

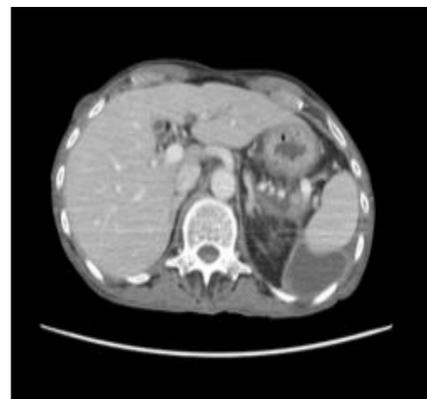


Figure 3: Axial view of CT Abdomen with contrast showing hepatomegaly, pancreatic calcifications, and peri-splenic fluid collection measuring 6 x 3 x 6 cm.