Case Report

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Surgery Section

A Rare Case Report of Hepatic Subcapsular Pseudocyst of Pancreas

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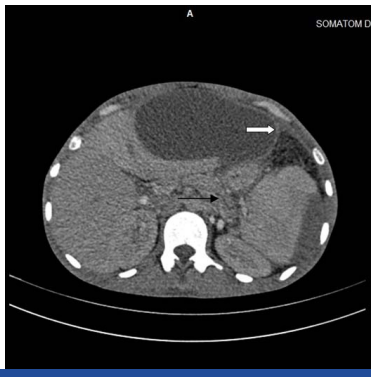
ABSTRACT

A pancreatic pseudocyst arises as a result of acute or chronic pancreatitis, pancreatic trauma, or obstruction of the pancreatic duct by a neoplasm. Most of the pseudocysts are located within the head and the body of the pancreas but 20% are extra-pancreatic. We report a case of a 33-year-old gentleman presenting with acute on chronic alcoholic pancreatitis with hepatic sub-capsular pseudocyst involving left lobe of liver, with intra-cystic bleed was successfully treated with Ultrasonography (USG) guided drainage. Computed tomography (CT) and high level of amylase in the collection plays an important role in diagnosing this condition. Large hepatic sub-capsular pseudocyst presenting with severe pain due to intra-cystic bleed can be treated with percutaneous drainage to pre-empt rupture.

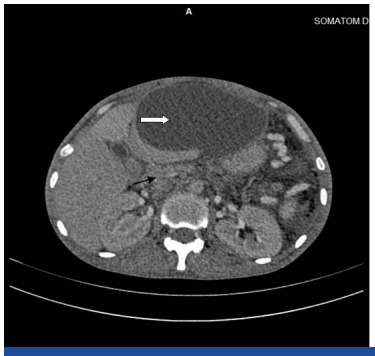
Keywords: Chronic pancreatitis, Pancreatic trauma, Pseudoaneurysm, Pancreatic duct neoplasm

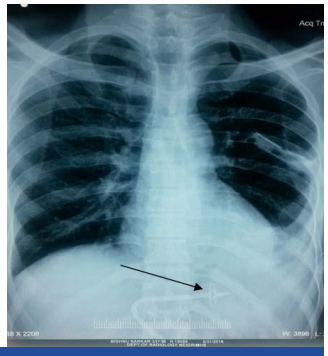
CASE REPORT

A 33-year-old male, chronic alcoholic for 15 years, came to General Surgery OPD with pain upper abdomen radiating to the back for one and half months and upper abdominal fullness for three weeks. Pain was sudden in onset and severe in intensity, relieved on bending forward and aggravated on taking food. On chest X-ray patient had also developed generalized distension of abdomen with upper abdominal fullness of three weeks. The upper abdominal fullness had been increasing over time. Patient also had massive left sided pleural effusion [Table/Fig-1] and developed respiratory distress for which a left sided Inter Costal Drainage (ICD) was put and about 800ml of blood tinged, amylase rich fluid was drained with relief of symptoms.



[Table/Fig-1]: Chest X-ray showing massive left sided pleural effusion. **[Table/Fig-2]:** Hepatic subcapsular pseudocyst with wall thickness of 6mm with white arrow showing the capsule and black arrow showing the main pancreatic duct at the body and tail of pancreas, also seen here is the subcapsular splenic collection.





[Table/Fig-3]: Shows a different cut sectional image where we can see the hepatic subcapsular pseudocyst with definite wall (white arrow) with black arrow showing the head and uncinate process of pancreas. **[Table/Fig-4]:** Left sided chest drain in situ. Arrow showing malecot catheter kept in situ to drain the hepatic sub-capsular pseudocyst.

Patient had similar episodes of pain abdomen on and off for last six years but the intensity was less severe and was relieved by medications. On per abdominal examination, abdomen was distended with tenderness over the epigastrium, left hypochondrium and umbilical regions. A 10x10cm tense, cystic and tender lump was palpable over the epigastrium with well-defined margins however, the upper border could not be felt. The lump had no movement with respiration and showed no side-to-side mobility. There was also free peritoneal fluid as evidenced by shifting dullness. Investigations revealed haemoglobin to be 11.2g%, total leucocyte count, differential leucocyte count, kidney function test, coagulation profile were within normal limits, serum amylase and lipase were raised at 700 and 863U/L respectively and pleural fluid amylase was also high at 223U/L.

Contrast Enhanced Computed Tomography (CECT) abdomen [Table/Fig-2,3] showed a massive left sided pleural effusion with right mediastinal shift; a large 12x11x11cm sub-capsular collection with wall thickness of 6mm in the left lobe of liver causing scalloping of liver. The spleen also had a sub-capsular collection measuring 7x8x7cm; pancreas was heterodense around the body and tail and the Main Pancreatic Duct (MPD) was mildly dilated. Gallbladder and the extra-hepatic biliary system were normal.

Patient did not have any haematemesis or melaena during the hospital stay but had a drop in haematocrit. Two units of packed red blood cells were transfused and the haemoglobin stabilized at 10g%.

As the patient was stable except for severe pain, he was initially managed conservatively by keeping nil per oral, maintaining hydration by IV fluids and adequate analgesia, oxygen inhalation by facemask and SpO_2 monitoring. The pain and epigastric lump size was increasing in size; hence the subcapsular pseudocyst was drained percutaneous by placement of a 10 Fr malecot catheter under USG guidance [Table/Fig-4]. Approximately 500ml of cyst fluid was drained which was dark colored, with clots and high amylase level (6000IU/L). The USG repeated after seven days showed collapse of the cavity and resolution of the pseudocyst with no residual collection. During the two months follow-up, no peripancreatic or subcapsular collection was observed.

DISCUSSION

Pancreatic pseudocyst in the liver is an uncommon condition, when present majority are seen in the left lobe of liver [1]. In the English literature upto 2009, only 34 such cases have been described

[2]. After 2009, extensive search of English literature revealed two cases, one treated percutaneously and other surgically. Baydar B et al., had also reported a similar case of pseudocyst in the right lobe of liver not responding to conservative treatment hence USG guided percutaneous drainage was done and patient recovered [3]. Our patient had pseudocyst in the left lobe of liver and was also not responding to conservative management therefore, USG guided percutaneous drainage was done with dramatic relief of symptoms.

Devangan M et al., had reported a case of sub-capsular pseudocyst in the left lobe of liver and in the superior pole of spleen [4]. The patient was treated surgically and excision of the liver cyst with drainage of the splenic cyst was done as the cyst had not matured for cystojejunostomy.

For intra-hepatic extension of pseudocysts two basic patho-physiological mechanisms have been postulated [5,6]. The first is the accumulation of the pancreatic juice in the pre-renal space which erodes through the posterior layer of the parietal peritoneum into the lesser sac. The collection from the lesser sac then tracks along the lesser omentum or gastrohepatic ligament toward the liver leading to subcapsular collection in the left lobe [6]. In the second mechanism the pancreatic juice tracks along the hepato-duodenal ligament from the head of the pancreas to the porta hepatis resulting in the formation of intra-parenchymal collections [5]. Both these collections have distinctive imaging characteristics; subcapsular pseudocysts are biconvex in shape. Intra-parenchymal pseudocysts are located away from the liver capsule and are located near the porta hepatis branches [7].

There are no definite guidelines in the management of hepatic sub-capsular pseudocyst. Spontaneous regression of intra-hepatic pseudocysts may occur, therefore, no specific treatment is needed in the majority of cases [8].

Guesmi et al., reported a 54-year-old smoker and chronic alcoholic male with intrahepatic pseudocyst treated successfully with CT guided percutaneous drainage of the pseudocyst [2]. They have also done a descriptive analysis of 23 cases with similar presentation, in 15 cases the intra-hepatic collection was treated by CT/USG guided drainage, four were managed surgically, three patients were managed conservatively and one treated successfully by endoscopic trans-papillary drainage.

The association of pseudocyst with arterial pseudoaneurysm is reported in about 10% cases of patients with chronic pancreatitis [9]. Von Flue M et al., had suggested that, the diagnosis of pseudoaneurysm within a pseudocyst can be made based either upon warning prodormal symptoms, such as epigastric pain or a sudden drop in haematocrit or upon radiological findings on a thin-sliced contrast enhanced CT scan [10]. In the present case, the severe pain may have been due to intra-cystic bleeding; as evidenced by blood tinged aspirate with clots from the pseudocyst as well as drop in haematocrit; and stretching of the Glisson's capsule. However, CECT did not show any pseudo-aneurysms in the cyst wall probably due to involvement of small vessels and therefore bleeding stopped spontaneously. A percutaneous USG guided drainage of the hepatic sub-capsular pseudocyst was undertaken to pre-empt rupture and to control pain. The patient thereafter, improved clinically obviating the need for surgery. The dramatic reduction in pain after percutaneous drainage may be explained by the relief of stretch on the Glisson's capsule due to earlier intra-cystic bleed.

CONCLUSION

Hepatic sub-capsular pseudocyst is a rare but known complication of pancreatitis and should be kept in mind when a sub-capsular collection is found in patients with chronic or recent episode of acute pancreatitis. CT and high level of amylase in the collection plays an important role for diagnosing this condition. In the presence of severe pain and large hepatic sub-capsular pseudocyst not resolving with conservative management; percutaneous drainage can be used, as it is both diagnostic and therapeutic.

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