

Pancreatic pseudocysts at unusual sites: A case report

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ABSTRACT

A pseudocyst is a well-circumscribed fluid collection surrounded by a non-epithelialized wall of granulation tissue and fibrosis with no associated tissue necrosis that is present for 4 or more weeks after disease onset. Pseudocyst as a complication of acute pancreatitis can occur at any site in the abdomen and even in the mediastinum, but the intrahepatic location of a pancreatic pseudocyst is a very uncommon event. In the literature, only 36 such cases have been described. Computed tomography and high amylase levels obtained by the aspiration of the fluid play an important role in diagnosing this complication. There are no definite guidelines for the management of hepatic subcapsular pseudocyst. We present a case of a 32-year-old male who presented with acute pancreatitis, and radiological imaging was diagnosed with disrupted pancreatic duct and intrahepatic pancreatic pseudocyst in communication with a collection in the anterior abdominal wall.

Key words: Acute pancreatitis, Disrupted pancreatic duct syndrome, Intrahepatic pancreatic pseudocyst, Pancreatic pseudocyst

A pseudocyst is a well-circumscribed fluid collection with no associated tissue necrosis that is present for 4 or more weeks after disease onset [1]. Intrahepatic pseudocyst should be kept in mind when an intrahepatic fluid collection is found in a patient with a chronic or recent episode of acute pancreatitis. Computed tomography (CT) and high amylase levels obtained by the aspiration of the fluid play an important role in diagnosing this complication. In the literature, only 36 such cases have been described [2]. Spontaneous regression of intrahepatic pseudocysts may occur; therefore, no specific treatment is needed in the majority of cases [3]. Although there are reports that endoscopic procedures such as transpapillary and transmural (transgastric and transduodenal) drainage have been successful in the management of pancreatic pseudocysts, either percutaneous drainage, surgery, or endoscopic sphincterotomy can be performed [4-6]. In the case of a stent, the placement of a transpapillary drain could facilitate the healing of ductal disruptions. The efficacy of a combined percutaneous and endoscopic approach (dual-modality drainage) is being widely advocated [7,8].

Here, we present a case of a pancreatic pseudocyst in a 32-year-old male with acute pancreatitis.

CASE REPORT

A 32-year-old male came to the department with a chief complaint of pain all over the abdomen but more specifically in the upper abdomen for 15 days. The pain was dull, aching, and radiating to the back. The patient gave a history of alcohol consumption for 12 years.

The patient had undergone exploratory laparotomy 6 months back at another hospital for pyoperitoneum, and approximately 2 l of pus was drained and sent for examination and mesenteric lymph node biopsy was taken. Biopsy showed a polymorphous population of lymphoid cells along with plasma cells, eosinophils, and necrosis. There was no evidence of granuloma or malignancy. Fluid sent for examination did not show acid-fast bacilli.

On examination, the patient was afebrile and vitals were stable. On per abdomen examination, midline scar of previous surgery was noted. There was tenderness and guarding in the epigastric region.

X-ray abdomen standing was normal. Sonography of the abdomen was suggestive of a collection of size 8.8 cm × 5.4 cm × 4.2 cm in right subdiaphragmatic space of 200 cc with minimal ascites. Another collection of 5 cc was noted in the right iliac fossa. All the routine hematological investigations were within normal limits except for a raised serum amylase (768 units/L), serum lipase (445 units/L), serum alkaline phosphatase (254 units/L), and low serum calcium (7.4 mg/dl).

A CT scan of the abdomen (Fig. 1) was done which showed a heterogeneous pancreas with irregular margins. A heterogeneous enhancement was seen on the post-contrast study with few non-enhancing areas at periphery suggestive of necrosis. A peri-pancreatic collection was noted. Pancreatic duct appeared ruptured in the body region. A well-defined peripherally enhancing thin-walled collection in a sub-capsular region in Segments VII and VIII of the liver measuring approximately 150 ml was seen. Collection of 67 ml was noted in subcapsular Segment III of the left liver lobe and was in communication with the anterior

abdominal wall collection of 100 ml in the midline. Another collection was noted in the right iliac fossa of approximately 63 ml. Ultrasonography-guided aspiration was done from the intramuscular and subdiaphragmatic collections. Amylase and lipase levels from the intramuscular collection were 65150 units/L and 838 units/L, respectively. Levels from subdiaphragmatic were amylase 56150 units/L and lipase 835 units/L, respectively.

Magnetic resonance cholangiopancreatography (Fig. 2) was done which showed a discontinuity at the junction of proximal one-third and distal two-thirds of a main pancreatic duct, with a collection arising through it and extending to the lesser sac. Similar collections were also seen along the subcapsular anterior and lateral hepatic margins indenting on the liver and subdiaphragmatic surface. A small collection was seen near the hepatic flexure measuring 3.5 cm × 4.5 cm, not in communication with the adjacent hepatic collection. The liver was normal in size and signal intensity with normal intrahepatic biliary radicals and common bile ducts.

The patient underwent endoscopic retrograde cholangiopancreatography-guided pancreatic sphincterotomy with stenting of the main pancreatic duct.



Figure. 1: Computed tomography scan showing a collection in Segment III of the left lobe and Segments VII and VIII of the right lobe of the liver

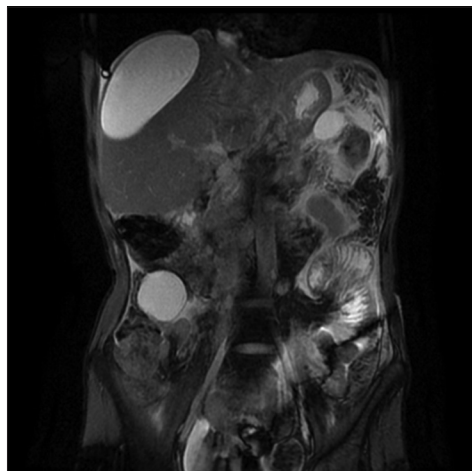


Figure. 2: Magnetic resonance cholangiopancreatography showing axial and coronal T2-weighted images of an intrahepatic pseudocysts and disrupted main pancreatic duct

A pigtail catheter was inserted into the anterior abdominal wall collection. The catheter got accidentally removed after 6 days of insertion. A pancreatico-cutaneous fistula had developed at the catheter site. The patient was started injection octreotide 100 mcg subcutaneously twice a day for 15 days. Daily dressings were done for the fistula which healed on follow up after 1 month. He was started on tablet pancreatic lipase 25,000 IU twice daily. The patient responded to the management and his appetite improved. On discharge, his sub-diaphragmatic collection had around 110 ml and right iliac fossa had approximately 20 ml. The patient gradually gained about 5 kg of weight in the follow-up period of 1 month thereafter. On follow-up, his right iliac fossa collection resolved and also the sub-diaphragmatic collection reduced to only 30 ml.

DISCUSSION

Pancreatic pseudocysts are encased by a non-epithelial lining of fibrous, necrotic, and granulation tissue secondary to pancreatitis. Pseudocyst as a complication of acute pancreatitis can occur at any site in the abdomen and even in the mediastinum, but the intrahepatic location of a pancreatic pseudocyst is a very uncommon event. In the literature, only 36 such cases have been described [2]. Most of them are either located in one lobe of the liver or are multiple, as in this case. The pathophysiology of intrahepatic pancreatic pseudocyst formation can be explained by different mechanisms [3,9].

The first mechanism consists of a perforation of the peritoneum along the anterior surface of the pancreas with the release of enzymes from a lesser sac collection tracking along the lesser omentum or gastrohepatic ligament toward the left lobe of the liver. The second mechanism consists of spreading of pancreatic fluid from the head of the pancreas into the hepatoduodenal ligament and porta hepatis along the portal vein and its branches. This results in the formation of the intraparenchymal collections [3,8,9]. The leakage of the pancreatic collections retroperitoneally posterior to the hepatoduodenal ligament and release of enzymes causes an erosion of the right hepatic parenchyma and leads to subcapsular location.

Subcapsular pseudocysts are located just beneath the liver capsule and are biconvex in shape, while intraparenchymal pseudocysts are located away from the liver capsule and near the porta hepatis branches. There are some tests and imaging methods helpful in the differential diagnosis of intrahepatic pseudocysts from abscess or mass. On CT, the content of intrahepatic pseudocyst is homogeneous and hypoattenuating and may involve any segment of the liver [10].

In the presence of signs of acute pancreatitis, the diagnosis of hepatic pseudocyst is not difficult by imaging [3]. High amylase levels obtained by the aspiration of the fluid are the most useful tool for the diagnosis of the pancreatic origin. In the present case, the amylase level of the aspiration fluid was confirming the origin of the intrahepatic pseudocyst.

There are no definite guidelines for the management of hepatic subcapsular pseudocyst. Spontaneous regression of intrahepatic

pseudocysts may occur; therefore, no specific treatment is needed in the majority of cases [3].

Draining is mandatory when symptoms secondary to compression of adjacent organs are found. It is also necessary to act when any of the following complications develop: Rupture, infection, or bleeding. Besides, percutaneous drainage, surgery, or endoscopic sphincterotomy can be performed.

CONCLUSION

Pancreatic pseudocyst located in the liver must be included in the differential diagnosis of liver cystic lesions, especially in patients with a chronic or recent episode of acute pancreatitis. CT scan and amylase levels in the fluid are important for diagnosing this complication. Spontaneous regression may occur, but when complications develop within it, then appropriate management should be undertaken.

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