

Intrahepatic localization of pancreatic pseudocyst: A case report

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The location of a pseudocyst in the liver is an exceptional event. We report here a case developing right and left intrahepatic pseudocyst following acute biliary pancreatitis. Ultrasound and computed tomography scan revealed a 13-cm right and two 4-cm left intrahepatic collections. Percutaneous puncture permitted us to detect a high level of amylase in the collection, confirming the diagnosis of intrahepatic pseudocyst. Percutaneous drainage resulted in 3000 mL of fluid discharge. The mechanism involved in this patient was rupture of the pancreatic pseudocyst in the retroperitoneal cavity and erosion reaching the right hepatic parenchyma retroperitoneally posterior to the hepatoduodenal ligament and the left hepatic parenchyma via the hepatogastric ligament. Besides, endoscopic sphincterotomy was performed with endoscopic retrograde cholangiopancreatography for cholangitis. After performing endoscopic sphincterotomy, the cysts in the left lobe resolved dramatically. Intrahepatic pseudocyst should be kept in mind when an intrahepatic collection is found in a patients with chronic or recent episode of acute pancreatitis. Computed tomography and high level of amylase in the collection plays an important role for diagnosing this complication. In case of abdominal pain and large intrahepatic pseudocyst, percutaneous drainage can be performed.

Key words: Pancreatic pseudocyst, pancreatitis, liver diseases

Intrahepatik yerleşimli pankreatik psödokist: Olgu sunumu

Karaciğerde psödokist yereşimi nadir rastlanan bir olaydır. Burada akut biliyer pankreatit sonrası sağ ve sol intrahepatik psödokist gelişen bir olgu sunacağız. Ultrasonografi, bilgisayarlı tomografi taraması sonucunda sağda 13 cm ve solda 2 adet 4 cm intrahepatik koleksiyon tanımlandı. Perkütan iğne ile koleksiyonda, intrahepatik psödokist tanısını doğrulayan, yüksek amilaz düzeyi belirlendi. Perkütan drenaj ile 3000 mL sıvı boşaltıldı. Bu hastadaki mekanizma retroperitoneal boşlukta pankreatik psödokistin delinmesi ve erozyonun, hepatoduodenal ligaman arkasından sağ hepatic parenkime ve hepatogastrik ligaman yolu ile sol hepatic parenkime ulaşımı şeklindedir. Bunun yanında, kolanjit nedeni ile endoskopik retrograd koledokopankreatografi ile endoskopik sfinkterotomi yapıldı. Endoskopik sfinkterotomi sonrası sol lobda bulunan kist dramatik şekilde kayboldu. Kronik ve tekrarlayan akut pankreatit ataklarında intrahepatik koleksiyon bulunan hastalarda intrahepatik psödokist akılda tutulmalıdır. Bilgisayarlı tomografi ve sıvıda yüksek amilaz düzeyleri bu komplikasyonu tanımlamada önemli rol oynar. Hastada karın ağrısı olduğunda ve intrahepatik psödokist büyük ise, perkütan drenaj uygulanabilir

Anahtar kelimeler: Pankreatik psödokist, pankreatit, karaciğer hastalıkları

INTRODUCTION

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 pancreatic pseudocyst is a very uncommon event (1-4). About 30 cases have been reported in the li-

terature. We report here a case of right and left intrahepatic pseudocyst following acute biliary pancreatitis. The mechanism was rupture of the pancreatic pseudocyst in the retroperitoneal cavity and erosion reaching the right hepatic parench-

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yma retroperitoneally posterior to the hepatoduodenal ligament and the left hepatic parenchyma via the hepatogastric ligament.

CASE REPORT

A sixty-year-old male patient had been diagnosed with acute cholecystitis 2 months ago and hospitalized following acute pancreatitis. Two months after this attack with abdominal pain, nausea-vomiting and jaundice, he was hospitalized because of a high serum amylase (353 UI/L) level and 40-mm cyst in the corpus posterior of the pancreas and 130-mm length collection, located subcapsularly in the right lobe and two more 40-mm cysts in the left lobe of the liver visualized by ultrasonography (US) and abdominal computerized tomography (CT) (Figure 1 and 2). Alanine aminotransferase (396 U/L), aspartate aminotransferase (334 U/L), alkaline phosphatase (700 U/L), total bilirubin (6,8 mg/dL), C-reactive protein (176mg/dL), and white blood cell count ($15.900/\text{mm}^3$) were high.

Endoscopic retrograde cholangiopancreatography (ERCP) revealed dilatation of intrahepatic ducts and common bile duct (CBD), and purulent discharge was observed with endoscopic sphincterotomy (ES). After ES, CT demonstrated that the cyst localized posterior to the pancreas head regressed to 10 mm, the two cysts in the left lobe of the liver disappeared, but the cyst in the right lobe was still present; the abdominal pain of the patient persisted as well. The collection was punctured, revealing a high level of amylase (6000 UI/L) and confirming the diagnosis of intrahepatic pseudocyst. Three liters of fluid was drained percuta-

neously using US guidance. Post-procedure, US revealed that the pseudocyst had disappeared on day 5. During the 2-month follow-up period, no intrahepatic or peripancreatic collections were observed.

DISCUSSION

Intrahepatic pancreatic pseudocysts are a rare complication of acute pancreatitis. Most of them are either located in one lobe of the liver or are multiple (3-7), as in our case. The pathophysiology of intrahepatic pancreatic pseudocyst formation can be explained by two mechanisms (6,8): the first mechanism consist of a perforation of the peritoneum along the anterior surface of the pancreas with 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 formation of intraparenchymal collections (6,8,9). 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 (5). Both mechanisms were present in our case. However, the formation of the intrahepatic pseudocyst in the right lobe seems to happen via the first mechanism - subcapsular but not via the hepatoduodenal ligament. The leakage of the pancreatic collections retroperitoneally posterior to the hepatoduodenal ligament and release



Figure 1. Ultrasound image of intrahepatic pseudocyst.



Figure 2. Computerized tomography image of intrahepatic pseudocyst.

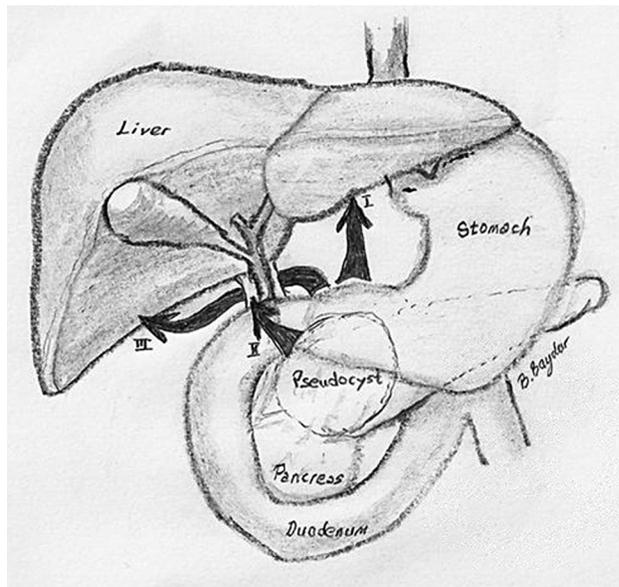


Figure 3. The pathway of intrahepatic pancreatic pseudocyst formation.

of enzymes cause erosion of the right hepatic parenchyma and leads to subcapsular location. This can bring to mind the possibility of a third mechanism (Figure 3).

There are some tests and imaging methods helpful in the differential diagnosis of intrahepatic pseu-

docysts from abscess or mass. On CT, the content of intrahepatic pseudocyst is homogeneous and hypo-attenuating and may involve any segment of the liver (5). In the presence of signs of acute pancreatitis, the diagnosis of hepatic pseudocyst is not difficult by imaging (6). And also high amylase levels obtained by the aspiration of the fluid are the most useful tool for the diagnosis of the pancreatic origin (6,7). In the present case, the amylase level of the aspiration fluid was confirming the origin of intrahepatic pseudocyst.

Spontaneous regression of intrahepatic pseudocysts may occur, therefore, no specific treatment is needed in the majority of cases (6). Besides, percutaneous drainage, surgery, or ES can be performed (3,9-12,13). In the patient we reported here, percutaneous drainage was performed because the patient had abdominal pain and the size of the pseudocysts was 130 mm in length.

Intrahepatic pseudocyst should be kept in mind when an intrahepatic collection is found in a 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 complication. In the presence of abdominal pain and large intrahepatic pseudocyst, percutaneous drainage can be applied.

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