

Pancreatojejunostomy for Intrahepatic Pseudocyst: A Unique Approach

Mukund P Kulkarni*

Department of Surgical gastroenterology, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India

*Corresponding author: Mukund P Kulkarni, Department of Surgical gastroenterology, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India, Tel: +91-9482660360; E-mail: mukundaiims@yahoo.com

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Abstract

Intrahepatic pseudocyst of pancreas is a very rare entity and a significant diagnostic dilemma with less than 30 cases reported in the world literature. Demonstration of amylase rich fluid and a communication with pancreatic duct system establishes the diagnosis. There are no definite guidelines for the management. Here we describe a patient with alcohol related chronic pancreatitis with pseudocyst in head of pancreas developing intrahepatic dissection of pseudocyst resulting in a large intrahepatic multicystic lesion. The diagnosis was made by CT scan and Ultrasound guided aspiration of intrahepatic cyst contents showing amylase rich fluid. The patient had to be treated for both the pancreatic pain and intrahepatic pseudocyst. The patient underwent lateral pancreatojejunostomy. The surgery resulted in resolution of intrahepatic pseudocyst by decompressing the main pancreatic duct and also resolved the pain of chronic pancreatitis. The lateral pancreato jejunostomy in this case is unique and not described before to treat intrahepatic pseudocyst.

Keywords: Intrahepatic pseudocyst; Hepatic pseudocyst; Pseudocyst dissection; Liver cyst; Chronic pancreatitis

Introduction

A cystic mass lesion in the liver parenchyma has many differentials ranging from simple cysts to abscess, neoplastic lesions and hamartomas. A pseudocyst in the liver comes very low in the differentials. The rarity of such an occurrence is reflected in the literature where only 33 such cases of intrahepatic pseudocyst are reported [1].

Case Report

A 41 year old male chronic alcoholic presented with recurrent abdominal pain radiating to back of 3 months duration. From previous ten days he had increasing pain, fever and poor oral intake. On examination he was sick and febrile [Temp 101°C]. He was asthenic with bilateral pedal edema. He had tachycardia of 100/min. His abdomen was slightly distended and mildly tender all over.

Investigations revealed a Hb-9.4, TC-15600, Bilirubin=0.78, AST=46, ALT=56, and Albumin=2.4 g/dl.

He had a old CT abdomen done 2 months prior which revealed a 2.5 × 3.0 cm cyst in head of pancreas with prominent main pancreatic duct and a normal liver.

A fresh CT scan was done. There was a hypodense multicystic lesion in right lobe of liver. There was right portal vein thrombosis (Figures 1 and 2). The pseudocyst in head of pancreas as seen in previous CT scan showed no change from previous imaging (Figure 3).

The differential diagnosis included metastatic cystic neoplasm of pancreas and liver abscess.

An ultrasound guided diagnostic aspiration of liver lesion revealed a clear straw colored fluid. Cytology revealed multiple neutrophils and few RBCs.

The fluid analysis revealed an amylase of 112000 U/ ml, Ca 19.9=248.98IU/L and CEA=0.58 IU/L.



Figure 1: Multiseptated cystic lesion in right lobe of liver. Note right portal vein thrombosis and differential perfusion of liver.

A careful review of thin sections on the CT console showed a tract connecting the liver lesion with pancreatic head cyst traversing along the hepatoduodenal ligament in front of portal vein. Hence an impression was made that the pancreatic head pseudocyst has dissected into the liver along the hepatoduodenal ligament.

He underwent a lateral pancreatojejunostomy to decompress the pancreatic head pseudocyst along with main pancreatic duct. At operation the pancreas was edematous. The main pancreatic duct identified and opened. The duct communicated with a 3 cm intraparenchymal pseudocyst in the pancreatic head. The tract from the cyst entering the gastrohepatic ligament was identified (Figure 2).

A Roux loop of jejunum was anastomosed to the entire length of pancreatic duct and the pseudocyst in the head. Intraop the liver was normal on palpation and did not reveal any abnormality.



Figure 2: Coronal section shows the pseudocyst in head of pancreas and prominent main pancreatic duct and the tract of fluid from cystic lesion in pancreatic head traversing hepatoduodenal ligament to the liver lesion.



Figure 3: The operative photo shows the main pancreatic duct and pseudocyst in head of pancreas laid open and also the tract within the pseudocyst pointing towards the hepatoduodenal ligament.

Post op recovery was uneventful. His pain disappeared and appetite improved. A follow up CT scan was done at 4 weeks which revealed complete resolution of previous liver lesion. Now at follow up of 3 years he is completely asymptomatic.

Discussion

Pseudocysts are walled off collection of pancreatic juice when it leaks out from pancreatic duct as a result of duct disruption. They arise both from acute or chronic pancreatitis. They are known to occur anywhere from mediastinum to pelvis and also within spleen, liver and kidney. Intrahepatic pseudocysts are rare [1]. They may be subcapsular collections or located well within liver parenchyma. The subcapsular pseudocysts arise from local capsular erosion from pressure and enzymatic degradation. The enzyme rich fluid which digests, dissects and finds way into the gastrohepatic ligament and into the porta hepatis [2-4] can spread along portal vein pedicles along its branching

pattern and give rise to intraparenchymal pseudocysts. The pancreatic pseudocyst in the head as in this case is in close relation to portal vein and common bile duct. Due to high pressure in the cyst and also due to enzymatic degradation, it has the potential to spread along the portal vein and bile duct along its branching pattern and also cause thrombosis of portal vein. This is probably the mode of spread in our case and also explains the thrombosis of right portal vein. The septation is due to the connective tissue remnant which is resistant to enzymatic degradation.

Given that patient is sick and febrile we thought that the septated lesion in liver may be abscess hence a percutaneous aspiration was done. The aspirate was straw colored which prompted us to look for amylase in the fluid and it was high.

Diagnosing an intrahepatic pseudocyst is difficult given its rare incidence. They are often seen in relation to left lobe of liver and often are subcapsular [5,6,8]. A cystic lesion in the liver in presence of acute or chronic pancreatitis should raise the suspicion for intrahepatic pseudocyst.

The treatment methods are varied. Some are known to resolve spontaneously [7-9] Most cases have been drained percutaneously under radiological guidance [8-11]. Techniques such as transpapillary pancreatic drainage achieve resolution of the pseudocyst by decompressing the main pancreatic duct [12,13]. There are reports of liver resection for the intrahepatic pseudocyst mistaken for liver tumor [14].

This patient underwent lateral pancreatojejunostomy with a view to achieve decompression of intrapancreatic pseudocyst and also achieve long term pain relief from pancreatitis. Use of lateral pancreatojejunostomy helped to decompress the pancreatic duct completely and hence decompress any pseudocyst connected with it. It also helped to improve pain of chronic pancreatitis. Lateral pancreatojejunostomy is unique in this case as it is not reported in the treatment of this condition. It also helped relieve pain from chronic pancreatitis. The idea is by opening the main duct the high pressure in the duct is relieved and all the duct disruptions collapse and heal. The results are long lasting and permanent. Unlike endoscopic transpapillary pancreatic duct stenting less technology intensive and can be done at places where facilities and expertise for pancreatic stenting are not available.

Conclusion

Intrahepatic pseudocyst is a rare occurrence and should be considered whenever there is associated pancreatitis. Cyst fluid amylase confirms the pseudocyst. Lateral pancreatojejunostomy offers a good response with resolution of pseudocyst as well as pain of chronic pancreatitis.

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