



A CASE REPORT OF SECONDARY BACTERIAL PERITONITIS AND PELVIC ABSCESS IN A PATIENT OF RECURRENT PYOGENIC CHOLANGITIS

Hepatobiliary Surgery

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ABSTRACT

Recurrent pyogenic cholangitis is a disease characterized by intra-biliary pigment stones, strictures in the biliary tree and recurrent episodes of cholangitis. This entity is almost exclusively seen in people living in Southeast Asia². The pathogenesis of this condition is incompletely understood even though bacterial and worm infections are suggested. Patients usually present with recurrent bouts of cholangitis and its complications including multiorgan failure. Management needs a multidisciplinary approach combining antibiotics, endoscopic therapy and surgical intervention.

KEYWORDS

Recurrent pyogenic cholangitis, pigment stones, biliary strictures, secondary bacterial peritonitis, pelvic abscess, endoscopic therapy

INTRODUCTION:

Recurrent pyogenic cholangitis is also known as oriental cholangio hepatitis, hepatolithiasis, Hong Kong disease and biliary obstruction syndrome of the Chinese. It was first described by Digby in 1930¹. It is characterized by intrahepatic pigment stone formation, biliary strictures and recurrent cholangitis ultimately resulting in secondary sclerosing cholangitis, secondary biliary cirrhosis, portal hypertension and cholangiocarcinoma.

Even though infection with *Clonorchis sinensis*, *Opisthorchis viverrini* and *Ascaris lumbricoides* are prevalent among these patients, a direct causal relationship is still lacking. The natural history of this entity is not well known. Recurrent cholangitis occurs in 25% to 37% of patients over a period of 3 to 5 years. Cholangiocarcinoma develops in 3% to 9% individuals which depicts the importance of frequent surveillance³. Secondary biliary cirrhosis and portal hypertension develop in many patients who may require liver transplantation.

MRCP is considered as the best diagnostic test which shows localization of intrahepatic stones, dilated bile ducts, focal biliary strictures and intraductal stones. Cholangiocarcinoma is a late complication with predisposition to occur in atrophic segments associated with biliary calculi and often accompanied by portal vein occlusion.

Case Report:

A 44 year old male presented with progressive abdominal distension and abdominal pain for 7 days, high grade fever with chills for 2 days. He gave no history of vomiting, GI bleeding, complementary and alternative medicine intake, decreased urine output, altered sensorium or loose stools. Patient had 3 similar episodes in the past starting from 2019 for which he underwent endoscopic procedures and stenting after which symptoms were resolved and was lost to follow up which resulted in recurrence of symptoms. He is a reformed alcoholic and smoker. There was no family history of similar illness. On examination patient had abdominal distension, generalised tenderness, palpable abdominal mass and shifting dullness.

Laboratory investigations are as follows.

Laboratory parameter	Value
Hemoglobin	10.2 g/dl
Total WBC count	24,000/mm ³
Platelet count	1.2 lakhs/mm ³
Total serum bilirubin	1.59 mg/dl
Direct bilirubin	0.96 mg/dl
AST	42

ALT	36
ALP	534
Serum Albumin	2.4 g/dl
Blood urea	12 mg/dl
Serum Creatinine	0.8 mg/dl
Serum sodium	131 meq/l
Serum potassium	3.46 meq/l
Serum chloride	104 meq/l
Serum amylase	17 u/l
Serum lipase	32 u/l
Prothrombin time	16 sec
Ascitic fluid analysis	Protein 3.6g/dl, albumin 1.7g/dl, cell count 4300/mm ³ , polymorphs 90%, lymphocytes 10% Culture and sensitivity – <i>Klebsiella pneumoniae</i> sensitive to Carbapenem, Amikacin, Cefazidime and Tigecycline

Ultrasound of abdomen showed mildly enlarged liver with multiple calcifications and central IHBRD. Subdiaphragmatic anechoic collection. Portal vein replaced by portal cavernoma. CBD stent in situ. Mild splenomegaly. Moderate ascites.

Contrast enhanced CT abdomen done showed multiple calculi in right and left hepatic ducts extending into second order biliary radicles. Portal cavernoma replacing portal vein at porta hepatis. 2 CBD stents noted in right and left ductal system. Decrease in the size of subdiaphragmatic collection. Moderate loculated fluid in the anterior aspect of the abdominal cavity and extending into the pelvis with thick enhancing walls.



Fig. 1 Contrast enhanced CT abdomen showing intrahepatic stones, dilated bile ducts and air in the biliary tree.

MRCP showed EHPVO with periportal collaterals surrounding CBD

with resultant narrowing of CBD causing bilobar IHBRD in keeping with portal biliopathy. Multiple calculi noted within the CHD, at primary confluence and within the segmental ducts in both lobes s/o hepatolithiasis. Multiple small cholangitic abscesses seen in both lobes of liver.

Patient was treated with Inj. Meropenem and Amikacin based on the ascitic fluid culture report. ERCP with CBD stenting done and bile was collected for culture and sensitivity. Percutaneous drainage of the abscess done under ultrasound guidance.

DISCUSSION :

Recurrent pyogenic cholangitis patients are at increased risk of complications including sepsis, pancreatitis, chronic liver disease and cholangiocarcinoma. The incidence of this disease is coming down due to improving sanitary condition, westernization of diet with high protein intake and proper treatment of bacterial and parasitic infections.

Acutely ill patients require combination of broad spectrum antibiotics and endoscopic biliary drainage. If adequate biliary drainage is not achieved by endoscopic intervention, percutaneous transhepatic biliary drainage or surgical methods like cholecystectomy with CBD exploration and T tube drainage can be tried.^{4,9,10}

Prevention of long term complications include removal of maximum number of stones by using a choledochoscope passed either percutaneously through the T tube tract or via a hepaticocutaneous jejunostomy site or through transpapillary route using ERCP. Multiple sessions are required. These approaches also permit dilatation of intrahepatic strictures and fragmentation of stones with the help of mechanical, electrohydraulic or laser lithotripsy.^{4,7,8}

The efficacy of combined approaches with ERCP and surgical choledocholithotomy was assessed in a trial of 245 patients of which 190 patients required both interventions for complete recovery whereas 55 patients required only surgical choledocholithotomy⁹.

A Hong Kong study showed the effectiveness of using the stoma in the Roux limb of hepaticojejunostomy for stone extraction in children. It provides a pathway for the removal of intrahepatic stones, balloon dilatation of intrahepatic duct strictures and flexible choledochoscopy.⁶

Resection of the hepatobiliary segments that are considered to be the main source of complications is feasible in a minority of patients in whom the disease is confined to the left ductal system. The immediate stone clearance rates after bilateral and unilateral hepatectomy were 81.5% and 65.9% respectively from a study conducted in 136 patients.⁷ Orthotopic liver transplantation is indicated in hepatolithiasis patients complicated with end stage liver disease. The study conducted in China on 4 patients who underwent orthotopic liver transplantation for above mentioned indication showed that there is slightly increased risk of intraoperative bleeding which can be controlled by conservative methods. Long term prognosis was also found to be similar compared to cirrhosis of other etiologies⁵.

CONCLUSION :

Recurrent pyogenic cholangitis is an uncommon entity requiring regular follow up with timely biliary intervention⁴, antibiotic treatment of associated cholangitis and appropriate surgical interventions for complications including liver transplantation. Patient also requires regular surveillance for the development of cholangiocarcinoma.

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