



RESEARCH ARTICLE

POST WHIPPLE HEPATOJEJUNOSTOMY STRICTURE WITH HEPATOLITHIASIS

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ABSTRACT

Cholangiohepatitis is an inflammatory disease of the biliary system. It may occur due to stricture, obstruction, foreign body or without a known cause. Reflux of intestinal content may rarely occur at hepaticojejunostomy site. Medical and surgical treatments are frequently required in patients with symptoms of recurrent cholangitis.

Key words:

Whipple procedure,
Hepaticojejunostomy,
Hepatolithiasis,
Cholangiohepatitis,
Oriental cholangitis.

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INTRODUCTION

Case presentation

A 58 years old female patient presented to us for ultrasound study with complaints of recurrent upper abdomen pain. The patient was having history of Whipple procedure (Roux-en-Y Hepaticojejunostomy) for pancreatic head tumor, two years back. The ultrasound study shows dilated bilobar intrahepatic biliary radicals (IHBR) with a calculus at biliary confluence (Fig 1A). There were also few smaller calculi in right lobe hepatic ductules. For further evaluation contrast CT study was done. It confirmed the finding of ultrasound and rule out any tumor recurrence in the residual pancreas (Fig1B). As part of work-up MRI study of upper abdomen with MR cholangiopancreatography (MRCP) was done. It better depicted dilated intrahepatic radicals with multiple calculi in right lobe hepatic ducts with a large calculus at biliary confluence (Fig 2, 3). Focal pericholangiolar ductal ectasia were additional finding in both lobes of the liver on MRI study.

So hepatolithiasis secondary to recurrent cholangiohepatitis with stricture at hepaticojejunostomy was the final conclusion of imaging studies. On the basis of symptom and classical imaging findings, diagnosis of oriental cholangiohepatitis secondary to stricture at anastomosis site was made. Endoscopic retrograde cholangiopancreatography (ERCP) was attempted but could not be successful. So, for further management surgery was done. Operative finding reveals stricture at hepaticojejunostomy site. Exploration of anastomosis with manual removal of calculi and revision of hepaticojejunostomy anastomosis was done. There was no perioperative complication and patient showed improvement in follow up.

DISCUSSION

Recurrent pyogenic cholangitis, oriental cholangiohepatitis and hepatolithiasis are different aspect of same disease terms commonly used in Hong Kong, Korea, and Japan respectively. Recurrent cholangitis emphasizing the clinical presentation and inflammation, hepatolithiasis characterized by intrahepatic bile duct stones featuring chronic inflammation, mural fibrosis & proliferation of peribiliary glandular and oriental cholangiohepatitis highlighting its ethnic preference (Tusi et al., 2011).

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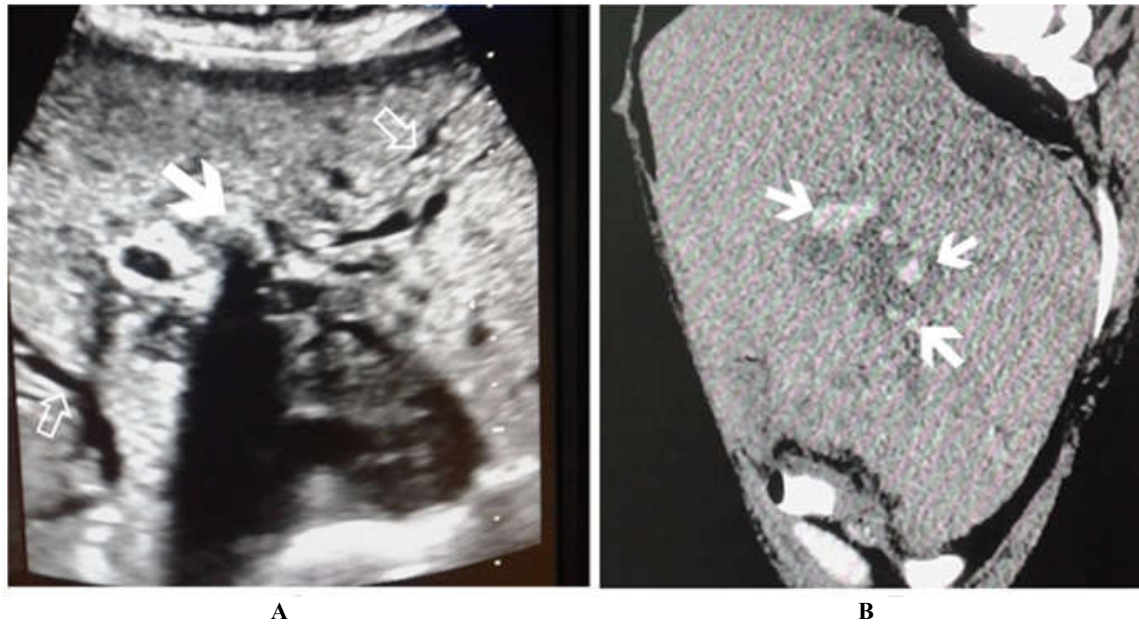


Figure 1. (A) Ultrasound image of upper abdomen show calculus at biliary confluence (solid arrow) with dilated bilobar intrahepatic biliary radicals (open arrow). (B) Sagittal reformatted CT image of the liver showing multiple hyperdense biliary calculi (solid arrows) with dilated biliary radicals

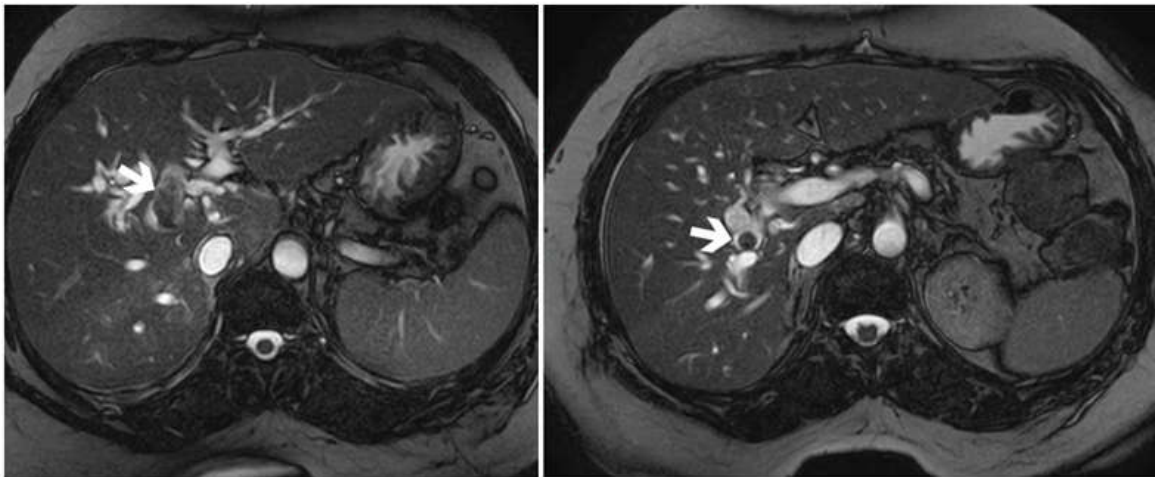


Figure 2. Axial BTFE MR images show a large calculus at biliary confluence (A) with dilated bilobar intrahepatic biliary radicals with smaller calculus in right posterior hepatic duct (B)

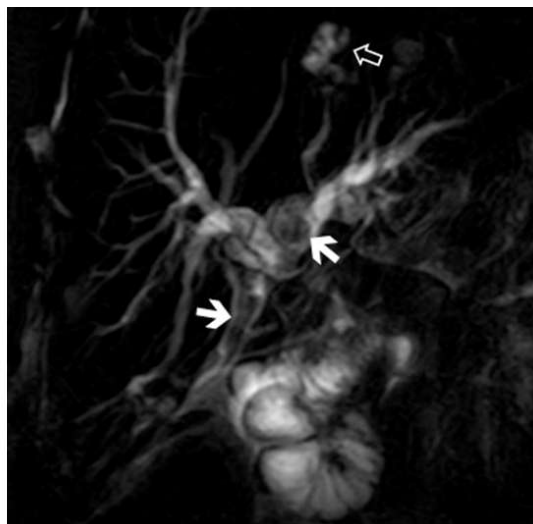


Figure 3. 3D reformatted MRCP image showing dilated biliary radicals with multiple calculi in right posterior hepatic duct and a larger calculus at biliary confluence (solid arrow). Pericholangiolar ductule ectasia are well seen (open arrow)

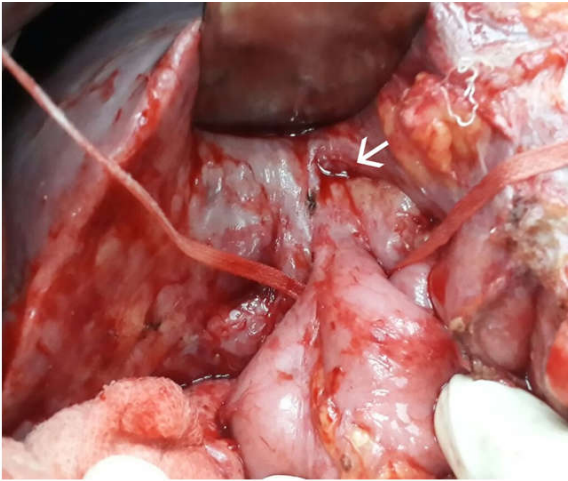


Figure 4. Intraoperative photograph showing exploration of hepaticojejunostomy. Exploration of jejunostomy was done with removal of intraductal calculi with revision of anastomosis

Although hepatolithiasis is often seen associated with parasitic infections in Eastern populations, but co-existence appears to be incidental rather than causative (Pockros, 2001). For diagnosis of cholangiohepatitis, endoscopic retrograde cholangiopancreatography (ERCP) and percutaneous transhepatic cholangiography, were previously common investigations to define the biliary ductal anatomy by depicting strictures, calculi, and ductal ectasia (Lam *et al.*, 1978) However, magnetic resonance (MR) imaging is now imaging modality of choice because it is noninvasive and overcome technical limitations like high grade stenosis and impacted calculi (Reinhold *et al.*, 1996).

So, our case demonstrated hepatolithiasis, a rare complication of Whipple procedure. MRI study nicely depicted the findings of biliary ductules dilatation and calculi. Though, non surgical approach such as percutaneous transhepatic drainage and internal drainage by endoscopic stenting are also method of treatment. But, after unsuccessful ERCP, surgical treatment was undertaken for definite treatment.

Conflict of interest

The authors declare, there is no conflict of interest.

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