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Double Gall Bladder with pancreatic divisum: A rare incidental finding in a patient of cholelithiasis

Jagram Meena[1], Mahendra Kumar[2], Devendra Saini[3], Narendra Bhadauria[4], Irfan Hussain Khan[5], Richa Jain[6]
[1,2,3,4] Assistant Professor,[5]Senior Resident, [6]Associate Professor and Unit Head
Department of General Surgery, Sawai Man Singh Medical College Jaipur – 302004, Rajasthan, India

***Corresponding author**
Dr. Jagram Meena
Email: jaggujagram@gmail.com

Abstract: We report a rare case of double gall bladder associated with pancreatic divisum. A 20 year old girl presented with right upper abdominal discomfort. On USG abdomen cholelithiasis was seen. Patient underwent laparoscopic Cholecystectomy; intra op findings were suggestive of double gall bladder. On HPE, there were two gall bladders with two different cystic ducts with stone in only one gall bladder. Patient complained of pain abdomen on post-operative day 3rd for which USG was done whichwas normal and patient was given conservative treatment with pain killers but patient continued to complain of pain, so a MRCP was done which revealed separate openings for santorini and wirsung duct and pancreatic divisum was diagnosed. Patient with pancreatic divisum should be followed carefully because there are more chances of pancreatitis in such patients. To the best of our knowledge, this is the first case report with a combination of these two conditions.
Keywords: pancreatic divisum, abdomen, cholelithiasis, double gall bladder.

INTRODUCTION

Double Gall Bladder (GB) is a rare anomaly of the biliary system with an estimated prevalence of 1/4000 [1]. Majority of the patients are asymptomatic. However, patients with cholecystitis who underwent cholecystectomy may later present with episodes of cholecystitis in the second gall bladder if this finding was missed earlier [2]. Such patients pose significant diagnostic as well as surgical challenge. Pancreas divisum (PD) occurs in 5-14% of general population and is the most common congenital anomaly of the pancreatic ductal system. It results due to failure of fusion of the ventral and dorsal pancreatic buds during eighth week of development.

CASE REPORT

A 20 year old girl presented to our hospital with pain and tenderness in the right hypochondrium. Abdominal ultrasound showed gall stones, however it failed to identify two GBs. Patient was admitted for further examination and laparoscopic cholecystectomy was planned. Her past medical and family history was unremarkable. Routine lab investigations were within normal range. Per-operatively, two gall bladders of different sizes were found. Anterior GB was larger in size compared to posterior which was smaller and slightly intrahepatic. Both had their own cystic duct which fused to form a single duct and then merged with Common Hepatic Duct (CHD) to form Common Bile Duct (CBD). There was a single large impacted stone in the anterior gall bladder while posterior GB contained white bile. During dissection of Calot's triangle, there was profuse uncontrolled bleeding, so it was converted to open cholecystectomy. On histopathological examination (HPE), walls of both GB were found to be lined by tall columnar papillary epithelium with dense infiltration by acute and chronic inflammatory cells along with marked congestion and focal hemorrhage. There was no evidence of malignancy.

On third post-operative day, patient complained of pain abdomen, for which she underwent USG which was normal and patient was given conservative treatment with pain killers but patient continued to complain of pain, so a magnetic resonance cholangiopancreaticography was performed which subsequently showed non-fusion of duct of Santorini and Wirsung. ERCP revealed separate openings of the dominant dorsal and short ventral pancreatic duct which confirmed PD. Sphincterotomy was done. Patient was discharged on 8thpost-operative day without any further complaints and remained asymptomatic during routine follow up.

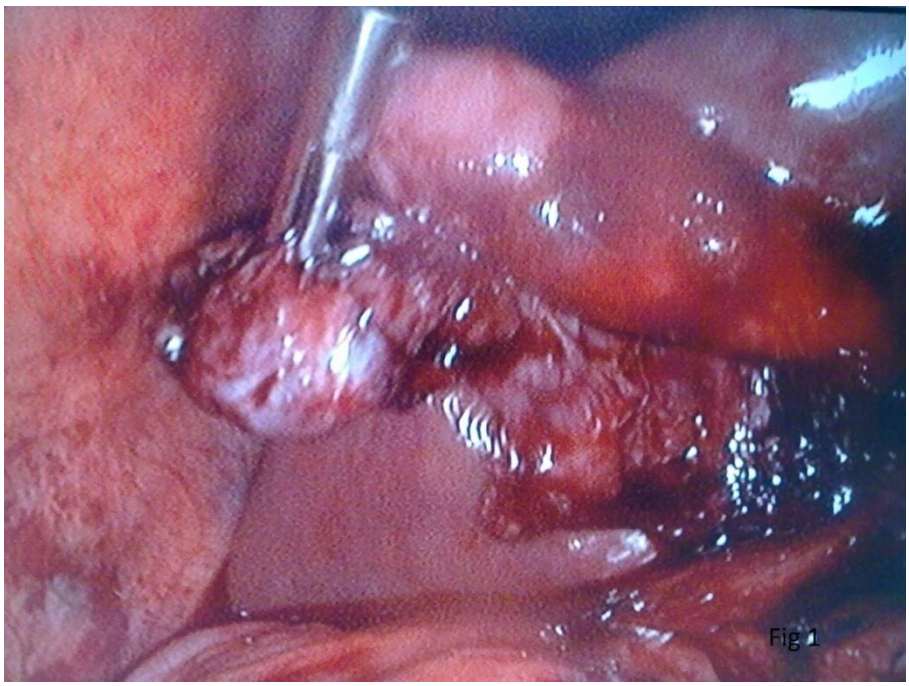

Fig-1: Intra op photo showing two gall bladders

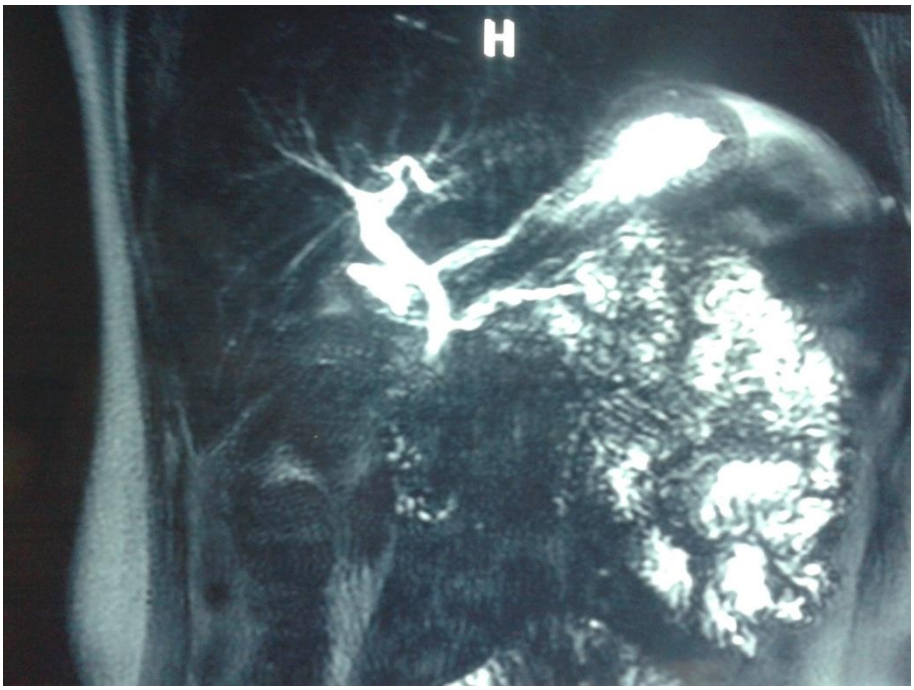

Fig- 2: MRCP showing two pancreatic ducts

DISCUSSION

Double gall bladder is a rare congenital anomaly. Incidence of disease in patients with double GB is similar to those with single gall bladder. Since most patients remain asymptomatic, prophylactic cholecystectomy is not advised1.Boyden classified double Gall Bladder into two main types: bilobed gallbladder and or true duplication with two cystic ducts. The true duplication is further classified into Y shaped type (two cystic ducts unite before entering into the common bile duct, usually the two gallbladder are adherent and occupy the same fossa) and the H shaped type or ductular type (two separate gallbladder and cystic ducts entering separately into the common bile duct). The accessory gallbladder of ductular type may be adjacent to the normal gall bladder in the gallbladder fossa or may be intrahepatic, sub hepatic or within the gastro hepatic ligament. The true duplication is more common and occurs due to bifurcation of gallbladder

primodium during the 5 th and early 6 th week of embryonic life [4, 5].

For diagnosis of double GBs, Ultrasound is the modality of choice having high sensitivity and specificity. CT scan and MRI may further be used for better anatomical delineation. Cholecystectomy with removal of both gall bladders is recommended in symptomatic patients even if the disease is present only in one lobe [5,6]. Pre-operative anatomical evaluation is must to avoid damage to the ductal system during surgery because of associated anatomical variations of cystic duct and hepatic artery. Complete evaluation of anatomy during surgery by intraoperative cholangiography can be done during laparoscopic cholecystectomy which has now become the gold standard [5,6]. Most important complication of surgery is accessory Gall Bladder undetected during initial surgery and then it presenting later [2, 3].

Patient with PD become symptomatic when resistance to flow at minor papilla leads to increased pressure in the dorsal duct. MRCP is rapidly becoming the noninvasive test of choice. However ERCP remains the test of choice for diagnostic and therapeutic purpose. Pancreas divisum presenting with mild symptoms can be managed conservatively. However, repeated episodes of acute pancreatitis or chronic pain may need endoscopic or surgical intervention. Endoscopic treatment options include minor papilla sphincterotomy, endoscopic stenting and balloon dilatation. Sphincterotomy alone or sphincterotomy with stenting may be performed. Early post endoscopic complications include pancreatitis, cholangitis, intestinal perforation and hemorrhage. Late complications include papillary restenosis, stent restenosis, and stent migration[8]. Surgical procedures include minor papilla sphincterotomy and sphincteroplasty. Liao 2009 *et al.;* performed a systematic review on endotherapy and surgery for pancreas divisum[7]. The pooled overall response rate to endotherapy was 69.4%, whereas the response rate to surgery was 74.9%. Although the response rate to surgery was slightly higher, it was not significant. So endotherapy can be a reasonable first-line treatment option for pain relief in pancreas divisum.

CONCLUSION

In a patient of cholelithiasis double Gall Bladder should be kept in mind because there is more chances of biliary ductal and arterial injury during surgery due to anatomical variation, so meticulous dissection of calot's triangle should be done. Mild symptoms due to pancreatic divisum can be treated conservatively but close follow up of patient should be done because there are more chances of pancreatitis.

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