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TYPE ID CHOLEDOCHAL CYST IN A 64 YEAR OLD PATIENT – A CASE REPORT

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ABSTRACT

Introduction: Choledochal or common bile duct (CBD) cysts are congenital cystic dilatation of any part of the bile ducts. It has been classified into five main types by Todani et al. Isolated cystic duct cysts are not included in this classification. It is extremely rare, and there are a limited number of cases in the literature. A new type of choledochal cyst was demonstrated in some literatures. In this new variant apart from the dilatation of the common hepatic and the common bile duct, dilatation of the central portion of the cystic duct was also observed, giving a bicornal configuration to the cyst. The imaging findings of a new variant of choledochal cyst with participation of the cystic duct are described. Now the classification of this type of choledochal cyst as a new subtype of Todani I cyst, is described as Todani ID. **Case presentation:** A 64-year-old female patient was admitted to our hospital (GD Hospital and Diabetes Institute) with right upper quadrant (RUQ) pain experienced intermittently for the past one year. Her medical history and laboratory findings were normal. Physical examination revealed tenderness in the right upper abdominal quadrent. Abdominal ultrasonography shows that a thin, tubular, cystic lesion was associated with the common bile duct. On magnetic resonance imaging (MRI) and magnetic resonance cholangiopancreatography (MRCP), a saccular dilatation was observed in the lower part of the common bile duct along with dilatation of cystic duct. Pre operatively it was diagnosed as type ID choledochal cyst. Open cholecystectomy and roux en y hepaticojejunostomy was performed. We also found dialated cystic duct at the time of operation which was not detected in imaging studies. Surgery findings and histopathological examination of the excised cyst confirmed the diagnosis. **Conclusion:** Type ID choledochal cysts are extremely rare, and familiarity with this anatomic variation and its early diagnosis can prevent complications such as inflammation and malignancy and guide the surgery. The most effective noninvasive imaging method in diagnosis is MRCP. Roux – en –y hepatico jejunostomy with excision of cyst is the treatment of choice.

Case Presentation:

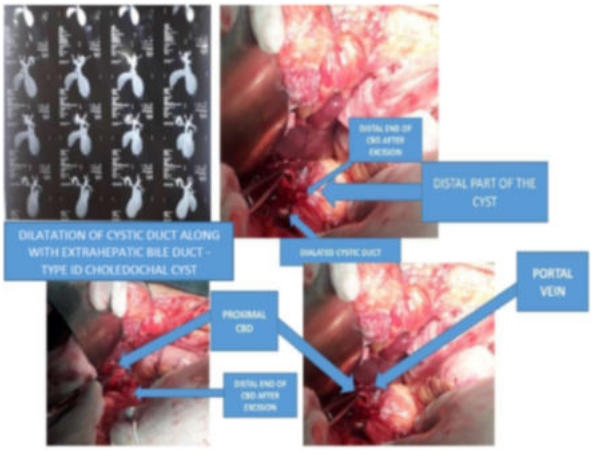
A 64 year old female, presented to our OPD with history of right upper abdominal pain for last one year. She was also having occasional vomiting and dyspepsia for last few months along with history of weight loss. She was non diabetic and non- hypertensive and she never had history of jaundice. She recently had suffered from fever with chills and rigor in last few days.

We did basic blood investigations and USG of whole abdomen. Blood investigations were normal though USG findings were suggestive of choledochal cyst. We decided to advise MRCP for her and it revealed hugely dilated lower part of common bile duct (CBD) and dilatation of cystic duct in accordance with type ID choledochal cyst.

We then admitted the patient and took up for operation. We planned for roux –en-y-hepatico-jejunostomy along with excision of cyst. As we entered the abdomen we found an isolated hugely dilated cystic duct along with dilated lower part of CBD. Isolated dilated cystic duct resembled type VI choledochal cyst. We excised both cysts and performed cholecystectomyand roux –en-y-hepatico-jejunostomy. Per operative and immediate post operative periods were uneventful.

Patient though developed bile leak from 3rd post operative day. Initially we found 200 ml of bile per day for 3rd and 4th post operative day and it gradually decreased to 50 ml in 7th post operative day. We decided to discharge the patient on 8th post –operative day with abdominal drain in situ. Patient were followed after15th post operative day in our OPD and drain was removed after knowing that there were no bile in drain for last 3 days. Histopathology revealed it as a case of choledochal cyst.

So it was a case of type ID choledochal cyst.



DISCUSSION:

The primary classification of choledochal cyst was first described by Alonso-Lej et al, [1] and was later modified by Todani et al[2]

Todani modified Alonso-Lej classification for bile duct cysts with the respective frequencies.

Type I (50–85%) Cystic or fusiform dilatation of the bile duct without affecting intrahepatic bile duct.

Type IA: Cystic dilatation of the common bile duct, as well as part of the hepatic common duct and some portionsfrom the right and left hepatic duct.

Type IB: segmental/focal dilatation of the extrahepatic common bile duct.

Type IC: fusiform dilatation of the extrahepatic biliary tree.

Type ID: cystic dilatation of the common and cystic duct.

Type II (2%) Real diverticulum of the extrahepatic bile duct.

Type III (1 a 5%) Choledococeles

Type IIIA: the common bile duct and the pancreatic duct enter in the cyst which connects to duodenum through another orifice.
Type IIIB: an intra-ampullary common bile duct diverticulum
Type IV (15–35%) Presence of multiple intrahepatic and extrahepatic cysts, or only the extrahepatic ones.
Type IVA: intra and extrahepatic dilatations.
Type IVB: multiple dilatations in the extrahepatic bile ducts only.
Type V (20%) One or more cystic dilatations of the intrahepatic biliary tract (without involvement of extrahepatic biliary duct).
Type VI (rare) Isolated dilatation of the cystic duct.

Preoperative diagnosis of concomitant types VI and IV b choledochal cysts is challenging, and intraoperative cholangiography is recommended in this unusual type of choledochal cyst.

Intrahepatic cholangiocarcinoma (IHCC) is the second most common primary liver cancer, and the incidence is increasing [3]. There is a significant association between the presence of congenital choledochal cysts and the development of hepatobiliary malignancies, including IHCC [4].

Mixed type I and II, the fusiform dilation of the common bile duct with a lateral diverticulum, is extremely rare. To our knowledge, only six cases have been reported, 4 in children and 2 in adults. In 2005, Kaneyama et al. reported 4 pediatric patients with mixed type I and II choledochal cyst. MRCP was useful in diagnosing 3 of these patients, and the other one was found by endoscopic retrograde cholangiography (ERCP). In 2003, Katsinelos et al. reported a similar case in a 72-year-old woman who presented with acute pancreatitis [5, 6, 7]. Another adult case was reported by Argawal et al. in 2009, a 25-year-old man who presented with recurrent abdominal pain, and diagnosis was facilitated with MRCP and intraoperative finding [6].

Ultrasound can occasionally show direct communication with the biliary tract, yielding a definitive diagnosis [8, 9]. If the ultrasound findings do not exclude other causes, MRI should be performed, ideally with MRCP [8]. The heavy T2-weighted technique routinely used in MRCP allows exquisite depiction of the hepatobiliary system without ionizing radiation [10]. MRI and MRCP without and with contrast administration are the tests of choice for preoperative planning because contrast enhancement can show malignant transformation, necessitating an alternative approach [11].

Type IV choledochal cyst is approached differently based on presence or absence and location of intrahepatic disease. The extrahepatic bile duct should be excised and if the intrahepatic disease is limited (i.e., left hemiliver), hepatectomy with Roux-en-Y reconstruction to the remaining hepatic duct can be performed [12].

Hence, the treatment for symptomatic cystic duct cysts is cholecystectomy with complete excision of the cystic duct cyst [13]. For cysts with narrow opening of the cystic duct cyst into CHD, cholecystectomy with complete cystic duct excision alone would suffice and it can be done through laparoscopy by clipping the cyst opening into the CHD [14].

Treatment of type ID cyst is also cholecystectomy along with excision of cysts and roux en y hepaticojejunostomy.

CONCLUSION:

Type ID choledochal cyst are rare. Early diagnosis and surgical management is necessary but many a time even modern imaging investigations failed to diagnose the case. Intra operative findings and on table decision is essential to manage such patients.

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