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Choledochocele Revealed by Biliopancreatic Dilatation in an Adult: A Case Report

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Abstract | **Case Report**

Choledochocele, corresponding to Todani type III choledochal cyst, is a rare congenital anomaly of the biliary tract characterized by cystic dilatation of the intraduodenal segment of the common bile duct at the level of the ampulla of Vater. It accounts for less than 5% of all choledochal cysts, and its diagnosis in adulthood remains uncommon. We report the case of a 63-year-old woman hospitalized for persistent cholestatic jaundice, revealing biliopancreatic duct dilatation without lithiasic or tumoral obstruction. The combined use of magnetic resonance cholangiopancreatography (MRCP) and endoscopic retrograde cholangiopancreatography (ERCP) allowed the diagnosis of choledochocele to be established. This case highlights the importance of considering this rare entity in patients with unexplained persistent biliopancreatic duct dilatation, in order to avoid diagnostic and therapeutic delays.

Keywords: Choledochocele; Todani type III biliary cyst; Biliopancreatic dilatation; MRCP, ERCP; Ampulla of Vater.

INTRODUCTION

Choledochocele, corresponding to type III of the Todani classification, is a rare congenital malformation of the biliary tract. It is defined by a cystic dilatation of the intraduodenal portion of the common bile duct at the level of the ampulla of Vater, and accounts for less than 5% of all biliary cysts [1,2].

Its discovery in adults is exceptional, as most cases are diagnosed in childhood. In adults, clinical manifestations are often non-specific, for example we may find jaundice, abdominal pain, acute pancreatitis, and may mimic biliary lithiasis or a peri-ampullary tumor, which accounts for the frequency of diagnostic delays [3,4].

Imaging plays a central role in the diagnostic workup. Magnetic resonance cholangiopancreatography (MRCP) is the reference examination for characterizing biliary dilatation and ruling out mechanical obstruction. ERCP retains both diagnostic and therapeutic value [5].

We report the case of a patient presenting with a choledochocele revealed by persistent biliopancreatic dilatation without lithiasic or tumoral obstruction, and discuss the diagnostic and therapeutic aspects in light of the literature.

CASE REPORT

2.1. Initial Presentation

Mrs. S.F., a 63-year-old obese woman (body mass index: 38.3 kg/m²) with a past medical history of type 2 diabetes, arterial hypertension, and dyslipidemia, was admitted in January 2025 for etiological workup of a cholestatic jaundice evolving for one and a half months. The clinical presentation included dark urine, acholic stools, generalized pruritus, and general condition deterioration characterized by asthenia, anorexia, and unquantified weight loss, in the absence of fever or other associated digestive or extra-digestive symptoms.

2.2. Laboratory Tests and Initial Imaging

Laboratory findings revealed a cholestasis syndrome (alkaline phosphatase at 4 times the upper limit of normal, gamma-GT at 6 times the upper limit of normal), associated with moderate cytolysis (AST and ALT at 3 times the upper limit of normal) and total hyperbilirubinemia at 286 µmol/L.

Abdominal ultrasound and computed tomography revealed dilatation of the common bile duct (CBD) and the Wirsung duct, without identifiable lithiasic or tumoral obstruction. MRCP confirmed the biliopancreatic dilatation and described a distended gallbladder with thin walls and no visible gallstones.

2.3. Initial Endoscopic Management

ERCP performed on January 21, 2025 revealed a protruding papilla, difficult to cannulate. After fistulotomy, abundant biliary sludge was extracted. The control cholangiogram showed a dilated, homogeneous CBD with no residual calculus.

2.4. Follow-up and Definitive Diagnosis

A control MRCP performed on February 14, 2025 demonstrated persistence of CBD dilatation (9 mm), Wirsung duct dilatation (9.5 mm), and ampulla of Vater dilatation, suggesting a choledochocele.

During a second hospitalization, the patient presented with postprandial epigastric pain and delayed postprandial vomiting, regression of jaundice without signs of acute complications, in a context of persistent asthenia and weight loss. Physical examination was unremarkable, limited to moderate epigastric tenderness without palpable mass or organomegaly. Repeat laboratory tests were strictly normal, with significant improvement of liver function tests compared to previous results.

2.5. Therapeutic Decision

Following multidisciplinary discussion, surgical management was proposed given the persistence of symptoms and biliopancreatic dilatation after endoscopic treatment. However, the patient declined surgery, opting for clinical and radiological surveillance with regular follow-up.

DISCUSSION

Choledochocele corresponds to type III of the Todani classification, which distinguishes five types of congenital biliary dilatations according to their location and morphology [1]. It is defined by a cystic dilatation of the intraduodenal portion of the common bile duct at the level of the ampulla of Vater, and accounts for less than 5% of biliary cysts [2,3].

Its pathogenesis remains debated. Two main hypotheses are proposed: a primary developmental anomaly of the biliopancreatic junction, and an acquired obstruction secondary to sphincter of Oddi dysfunction leading to progressive dilatation [4].

The classic triad of abdominal pain, jaundice, and palpable mass, described in biliary cysts in children, is rarely observed in adults. Clinical manifestations are most often nonspecific and polymorphic, and may include recurrent cholestatic jaundice, acute pancreatitis episodes, or chronic abdominal pain [3,5].

In our case, the initial presentation was dominated by cholestatic jaundice with general condition deterioration, followed during the second hospitalization by isolated postprandial epigastric pain, illustrating the polymorphic evolution of this condition and the diagnostic difficulty it can generate.

Diagnosis relies primarily on imaging. Abdominal ultrasound and CT scan can identify biliary dilatation without obvious obstruction, but remain limited for fine analysis of the ampullary region. MRCP is the examination of choice, allowing precise characterization of the dilatation and exclusion of lithiasis or peri-ampullary tumor [5,6].

ERCP retains a major diagnostic interest, particularly when MRCP is inconclusive, while offering the possibility of immediate therapeutic intervention (sphincterotomy, biliary drainage). In our case, the combination of both examinations was important for orienting the diagnosis toward a choledochocele: initial ERCP allowed biliary sludge drainage without fully resolving the dilatation, while control MRCP revealed persistence of ampullary dilatation [7].

Treatment of choledochocele aims to relieve biliary obstruction and prevent complications, particularly recurrent pancreatitis and, in the long term, malignant transformation, although this risk is considered low in the literature [2,8].

Endoscopic treatment by sphincterotomy constitutes the first-line therapeutic approach in mildly complicated symptomatic cases. Surgical resection of the cyst with biliary reconstruction is reserved for large lesions, failure of endoscopic treatment, or when malignant transformation is suspected [3,7].

In our case, surgical management was proposed due to persistence of symptoms and biliopancreatic dilatation after endoscopic treatment. The patient's refusal led to opting for regular clinical and radiological surveillance, a modality that may be considered in asymptomatic forms or in patients declining surgery, provided rigorous follow-up is ensured [8].

CONCLUSION

Choledochocele is a rare but clinically important entity that should be considered in adults presenting with persistent biliopancreatic duct dilatation without identifiable lithiasic or tumoral obstruction. Its clinical polymorphism and the relative non-specificity of first-line morphological investigations explain the frequency of diagnostic delays.

This case report underlines the importance of considering choledochocele in the presence of any persistent biliopancreatic dilatation without identifiable lithiasic or tumoral obstruction. The combination of MRCP and ERCP constitutes the optimal diagnostic strategy, while also allowing an endoscopic therapeutic approach. Long-term surveillance remains essential due to the risk of complications and malignant transformation.

Conflicts of Interest: The authors declare no conflicts of interest related to this article.

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