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Surgical Management of Choledochal Cyst in Male Adolescent, Case Report

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ABSTRACT

Common bile duct cysts are a rare medical condition, which is characterized by dilation of the intrahepatic and extrahepatic bile ducts. The main clinical presentation is abdominal pain, jaundice and a palpable abdominal mass. They are premalignant lesions, so the treatment of choice is complete surgical resection with long-term follow-up. The following report relates a male adolescent treated surgically with good results.[1]

KEYWORDS: choledochus, cyst, Roux Y, hepatojejunostomy.

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INTRODUCTION

The choledochal cyst is a rare pathology, its highest incidence is in the Far East. It has a predisposition to become cholangiocarcinoma in adult life. The etiology is not fully understood; However, the most accepted hypothesis establishes its association with an anomalous pancreaticobiliary junction (97% association), which causes reflux of pancreatic secretions into the bile ducts, causing inflammation and dilation of the ducts. A well-performed ultrasound is believed to be the only imaging examination necessary for diagnosis before surgery. Cyst excision and biliodigestive reconstruction via hepaticoduodenostomy or Roux-en-Y hepaticojejunostomy are the preferred methods to manage the disease. [2]

Our case consists of a 16-year-old male who presented with a choledochal cyst managed surgically with a roux-en-Y hepatojejunastomosis.

CASE PRESENTATION

A 16-year-old male with a denied chronic history, a denied surgical history, smoking, alcoholism and positive drug addiction, went to the emergency room with a 3-week history of pain in the right hypochondrium that did not radiate, intensity 6/10, accompanied by nausea without vomiting. jaundice, acholia and coluria, USG was taken in a private setting that reported cholecystolithiasis and choledochal ectasia.

Upon arrival to the emergency room, he was conscious, oriented, with painful fascia, jaundice of the skin and integuments, cardiopulmonary without compromise, soft abdomen, not painful on palpation, Murphy negative, without peritoneal irritation.

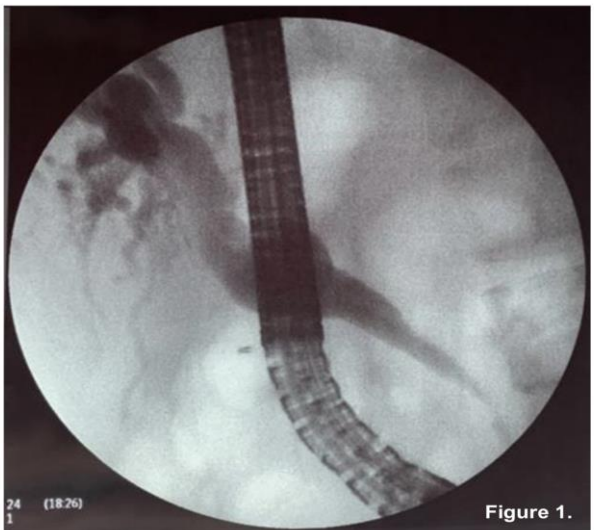

Figure 1. ERCP showing dilation of the common hepatic and common bile duct of 14 mm, suggestive of Todani I-C.

Laboratories: leukocytes 5.3, hemoglobin 11.3, platelets 247, amylase 68, lipase 61, total bilirubin 16.7, direct bilirubin 14.9, indirect bilirubin 1.8, alkaline phosphate 481, AST 198, ALT 314, total protein 5.8, GGT 355, cholesterol 3 10, Albumin 3, glucose 125, urea 10.7, bun 5, Hepatitis A: negative

Therefore, the patient was admitted to the floor under suspicion of choledocholithiasis for an ERCP protocol.

During hospitalization, Cholangioresonance and subsequent ERCP are requested.

USG of the liver and bile duct 04/23/21: type I gallbladder lithiasis, with distended gallbladder, common bile duct ectasia, common bile duct measuring 11 mm in diameter, no stones visible inside.

Cholangioresonance: 6 x 5 mm filling defect in the distal intrapancreatic common bile duct with dilation of the intra and extra hepatic bile duct, in differential diagnosis consider choledocholithiasis as the first possibility, consider the benefit of ERCP. Gallbladder measures 12.8 x 4.7 cm, distended with a small circular filling defect inside measuring 5x4 mm, no perivesicular fluid is documented, consider polyp or stone.

ERCP: 01.05.21 Non-specific papillitis, sphincterotomy and satisfactory balloon sweep without removal of stones from the interior of the bile duct, dilation of the proximal bile duct (to consider Todani choledochal cyst IC vs IV-A).

After the findings, it was decided to intervene surgically.

Surgery performed: Bilioenteric diversion (lateral end hepatojejunum anastomosis).

A suprainfraumbilical incision is made, 100 cc of free bile fluid is identified in the cavity, a tense gallbladder is identified, 120 cc is drained, and cholecystectomy is performed. The artery and cystic duct are ligated, the bile duct is dissected, and a section is made 1 cm below the confluence of the right and left hepatic duct. The Treitz angle is located at 50 cm, a section of the jejunum is performed, the retrocolic efferent loop is elevated and the stump is closed in two planes, with the mayo and Lembert with prolene and silk, hepatic jejunum anastomosis is performed at the lateral end with prolene 4-0 and at 60 cm of the biliary anastomosis, jejunal-jejunal anastomosis is performed laterally in two planes with prolene and 3-0 silk.

Patient with post-surgical progress with good evolution, is under surveillance for two years, without jaundice, adequately tolerating the oral route, denying pain or other symptoms, last laboratory control: leukocytes 7.5, total bilirubin 0.40, direct bilirubin 0.30.

CASE DISCUSSION

The choledochal cyst, or congenital dilation of the bile duct, is a rare pathology, its highest incidence is in the Far East. [2] They are more commonly found among women (4:1). 3 25% of choledochal cysts are detected in the first year of life, 60% in the first decade and 20% after 20 years of age. [4]

It was first described in 1723 by Vater and Ezler and has a predisposition to develop into cholangiocarcinoma in adult life. The etiology is not fully understood; However, the most accepted hypothesis establishes its association with an anomalous pancreaticobiliary junction (97% association), which causes reflux of pancreatic secretions into the bile ducts, causing inflammation and dilation of the ducts. [2]

Common symptoms include abdominal pain and vomiting, which are few specific. Jaundice is the most specific symptom. [5]

These cysts are clinically important due to the complications they entail: recurrent cholangitis, biliary stricture, choledocholithiasis, recurrent acute pancreatitis and malignant transformation. It is well documented that the risk of malignant transformation is age-related and early and complete removal of the cyst is currently recommended. However, in adults the diagnosis is often delayed due to nonspecific and intermittent symptoms.

Adults with choledochal cysts are predisposed to developing cholangiocarcinoma, the incidence increases from 0.7% in the first decade of life to 14% after 20 years. [4]

A well-performed ultrasound is believed to be the only imaging examination necessary for diagnosis before surgery. Other types of imaging can help in planning, but do not change the final management of the disease. [2] The exact delimitation is performed with cholangiography, with CRM being superior to ERCP. [6] The diagnosis is usually made in the first 5 years of life, recently prenatal diagnosis has been made from 15 weeks of gestation. All of them are asymptomatic before surgery. [5]

Cyst excision and biliodigestive reconstruction using hepaticoduodenostomy or Roux-en-Y hepaticojejunostomy are the preferred methods of managing the disease in order to resolve biliary obstruction and eliminate the possibility of malignancy of the dilated duct. The bilio-enteric anastomosis should be performed in the lower dilated portion of the common hepatic duct to ensure a safe anastomosis and reduce the risks of postoperative complications. [2] Laparoscopic surgery is feasible and safe in select patients, with complication rates of 5.3%. 5 Hepaticoduodenostomy is not ideal for biliary reconstruction in children due to the high incidence of 33.3% of bilious gastritis secondary to duodenogastric reflux. Therefore, roux-en-y hepaticojejunostomy is the technique of choice for reconstruction in choledochal cysts. [7]

CONCLUSIONS

In conclusion, choledochal cysts are rare anomalies of the bile duct, which can present serious complications, which is why early surgical management is warranted.Complete resection of the cyst and cholecystectomy should be performed, using an open or laparoscopic technique, as this reduces the risk of complications and malignant degeneration. Long-term follow-up is required to monitor post-surgical complications.

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