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Case Report

A case report on choledochoduodenal fistula: how to suspect this unusual entity?

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ABSTRACT

A choledochoduodenal fistula is an abnormal connection between the common bile duct and the duodenum, which are associated with a history of problems in the common bile duct. It has appeared in 0.74% of patients submitted for biliary tract surgery. The most frequent symptoms of non-obstructive enteric biliary fistulas are: epigastric pain, cholangitis (80.91%), jaundice (54,.26%), fever (50.69%), nausea and/or vomiting (10.30%), abdominal distension (0.39%), asymptomatic (0.11%), and diarrhea (0.11%). Diagnostic imaging methods provide the data of greatest interest in revealing the presence of air in the bile duct. This method, as well as barium reflux under the biliary tree in contrasted studies and in ERCP, reveal the fistulous tract and its location. Neither the prevalence, nor the clinical characteristics that pertain to its presentation, are well known among our population. Possible treatments for this illness include conservative treatment with medication, endoscopic sphincterotomy, and surgical therapy.

Keywords: Choledochoduodenal fistula, Jaundice, Cholangitis, Endoscopic retrograde cholangiopancreatography

INTRODUCTION

A choldocoduodenal fistula is an abnormal connection between the common bile duct and the duodenum, which are associated with a history of gallstones in the common bile duct, recurrent bile duct infections and less frequently associated with peptic ulcer disease, malignancy and trauma.[1] Due to their causal relationship they are classified as spontaneous, iatrogenic, postoperative and post-traumatic. In the first group, most are the product of complications of vesicular lithiasic disease, followed by gallbladder, choledochus, duodenum and pancreas neoplasms, and to a lesser extent, perforations in the course of duodenal Crohn's disease and duodenal peptic ulcer, and paraduodenal abscesses. It has been reported in 0.74% of patients undergoing biliary tract surgery. In relation to the structures involved with ostomy, they can be classified as: bilioenteric, (72-80% cholecystoduodenal cholecystocolic, 8-12%, cholecysto-gastric, 3-5%, choldocoduodenal, 2-5% and combined, 2-3%.[2]

Pain and sensitivity may appear in the right hypochondrium, accompanied by jaundice, fever, chills, nausea, vomiting, intolerance to fatty foods, collyria; when cholangitis coexists, or signs of intestinal occlusion.[3] In the absence of a characteristic clinical picture that suggests its presence, it is considered a diagnostic challenge. Radiological imaging means are very useful in their identification, with their use in this type of patients the presence of air in the bile duct is identified in 14 to 58% of the time and a contrast step in almost 100%. Endoscopy, and among it endoscopic retrograde cholangiopancreatography (ERCP), is decisive to achieve its exact location and visualization.[3-6.]

CASE REPORT

A 43-year-old male with a history of laparoscopic cholecystectomy 25 years ago. Start 48 hours ago with pain in epigastric type colic of intensity 8/10, with irradiation to right shoulder, accompanied by nausea, vomiting on 3 occasions gleroso type, fever of up to 38.4°F and yellow coloration in sclera, referring to the same symptomatology on two previous occasions, in the last three months handled with unspecified antibiotic.

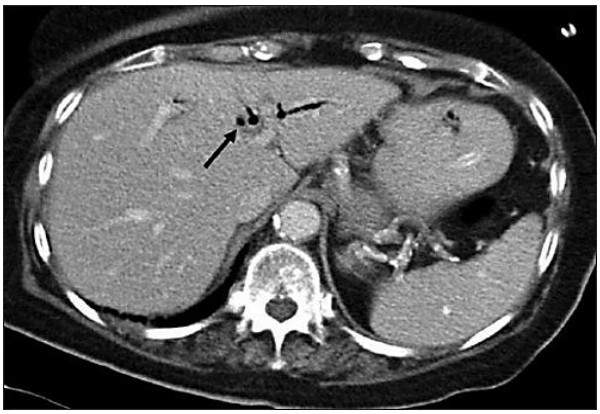

Figure 1: Abdominal tomography was performed with the presence of neumobilia.

At physical examination, jaundice dye on skin and sclera, abdomen with scars of 2cm in epigastrium, supraumbilical, hypochondrium and right flank, painful to middle and deep palpation in epigastrium, without data of peritoneal irritation. In the paraclinics, leukocytosis, hyperbilirubinemia BT 6.5 at the expense of direct and elevation of transaminases AST 160 U/L, ALT 255 U/l, and GGT 856 U/l, alkaline phosphatase 432. Abdominal tomography was performed with the presence of neumobilia (Figure 1) and endoscopic cholangio-pancreatography with bile outflow through the proximal orifice to the papilla (Figure 2). Hepatoyejunoa-nastomosis is decided as a definitive treatment for recurrent cholangitis.

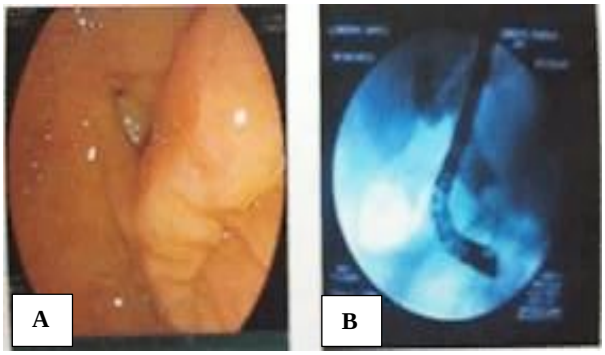

Figure 2 (A and B): Endoscopic cholangiopancreatography with bile outflow through the proximal orifice to the papilla.

DISCUSSION

Bilioenteric fistulas can be categorized according to the specific communicating parts of the biliary system and the intestinal tract. Stagnitti et al reported cholecystoduodenal fistulas as the most common subtype (68% or 55/81 cases), while Zong et al reported choledooduodenal fistulas as the most common subtype.[6] The most frequent presenting symptoms of nonobstructive biliary enteric fistulas are: epigastric pain, cholangitis (80.91%), jaundice (54.26%), fever (50.69%), nausea and/or vomiting (10.30%), abdominal distension (0.39%), asymptomatic (0.11%) and diarrhea (0.11%).[7] Tanaka et al first reported on a larger series of cases in Japan involving 83 individuals and proposed a classification system that depended on the location of the PCF in relation to papilla.[5] Ikeda and Okada classified choldocoduodenal fistulas into two types from an etiological point of view. In type I, for those located on the papilla and type II if they are located immediately on or near its papillary edge.[5,8] Imaging diagnostic methods are those that provide the most interesting data when evidencing the presence of air in the bile duct, barium reflux to the biliary tree in contrasted studies and in the ERCP, in addition to the above, evidence of the fistulous path and its location.[8,9] Possible treatments for this disease include conservative drug treatment, endoscopic sphincterotomy, and surgical therapy. The choice is based on the etiology, the severity of the disease and the general condition of the patient. It has been reported that recurrent infections of the tract and bile ileus are considered a definitive indication for surgical management.[9] Fistula had a high probability of developing obstructive stenosis given its long length and avascular nature. Therefore, in our case surgical treatment was decided to avoid these complications and any need for urgent surgery.[4]

CONCLUSION

Patients with choledochoduodenal fistula may present unspecific symptoms, which makes it difficult to diagnose, should be suspected in patients with epigastric pain and recurrent cholangitis. To identify this pathology diagnostic aids are needed and ERCP can significantly increase the rate of diagnosis. Depending on the clinical presentation of the fistula the management will be surgical in case of duodenal stenosis, repeated bleeding and cholangitis vs conservative management with antibiotic therapy and surveillance.

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REFERENCES

1. Gallagher SP, Imagawa DK. Spontaneous choledochoduodenal fistula in a patient with a bile

duct injury following laparoscopic cholecystectomy. J Surg Case Rep. 2019;2019(5):141.
2. Beksac K, Erkan A, Kaynaroglu V. Double Incomplete Internal Biliary Fistula: Coexisting Cholecystogastric and Cholecystoduodenal Fistula. Case Rep Surg. 2016;2016:5108471.
3. Karol RJ, Ameijeiras N, Habana HL. Fístula coledocoduodenal Choledochoduodenal fistula. Revista Cubana de Cirugía. 2017;56:3.
4. Kang BK, Park SM, Kim BW, Kim JS, Kim JH, Ji JS, Choi H. Cholangitis Secondary to Food Material Impaction in the Common Bile Duct through a Choledochoduodenal Fistula. Clin Endosc. 2015;48(3):265-7.
5. Tanaka M, Ikeda S. Parapapillary choledochoduodenal fistula: an analysis of 83 consecutive patients diagnosed at ERCP. Gastrointest Endosc. 1983;29(2):89-93.
6. West S, Shellenberger MJ. No Stone Left Unturned: Using Choledocholithiasis to Open a Papillary Stenosis via a Choledochodudenal Fistula. ACG Case Rep J. 2016;3(2):118-20.
7. Wu MB, Zhang WF, Zhang YL, Mu D, Gong JP. Choledochoduodenal fistula in Mainland China: a review of epidemiology, etiology, diagnosis and management. Ann Surg Treat Res. 2015;89(5):240-6.
8. Zimmer V, Mues EP. A different kind of acute cholangitis: Subacute Ikeda type II peripapillary choledochoduodenal fistula? Dig Liver Dis. 2020; 52(7):786-7.
9. Xi B, Jia JJ, Lin BY, Geng L, Zheng SS. Peptic ulcers accompanied with gastrointestinal bleeding, pylorus obstruction and cholangitis secondary to choledochoduodenal fistula: A case report. Oncol Lett. 2016;11(1):481-3.

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