

Choledochoduodenal Fistula: A Rare Case Report with Review of Literature

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Abstract: Choledochoduodenal fistula is an uncommon complication of chronic duodenal ulcer. The presenting features of these fistulas are those of ulcer or recurrent attacks of fever, abdominal pain and jaundice for recurrent cholangitis. The majority of these fistulas heal spontaneously with intensive medical management, the remainder requires surgery and the operation of choice is vagotomy and antrectomy or gastrojejunostomy.

INTRODUCTION

Only 5% of the choledochoduodenal fistula (CDF) are consequences of the chronic duodenal ulcer disease¹ but also can occur by choledocholithiasis or iatrogenic. Although, they often present without specific clinical symptoms and may be incidentally picked up by upper GI radiographic study or endoscopy

CASE REPORT

A 38 years old male, married, smoker, Nondiabetic was referred to our department for routine barium meal examination with the history of chronic duodenal ulcer. Barium study reveals choledochoduodenal fistula. Usg Reveals Pneumobilia With Distended Gall Bladder.



Fig.1: Choledochoduodenal Fistula With Deformed D Cap

DISCUSSION

Choledochoduodenal fistula (CDF) constitutes only 5% of the cases producing biliary enteric fistulae². The reason for the rarity of this condition becomes apparent when one realizes that a duodenal ulcer most typically occurs about 4cm distal to the pylorus whereas the CBD is about 7 cm distal to the pylorus³. A study of 81 patients over a 50-years period had attempted to list the incidences of several types of spontaneous bilioenteric fistulae. They include (a) cholecystoduodenal (68%), (b) cholecystocolonic (13.6%), (c) choledochoduodenal (8.6%), (d) cholecystogastric (4.9%) and (e) duodeno-left hepatic (4.9%)⁴. Subclassification of CDFs: (a) proximal CDFs-primarily located along the posterior wall of the duodenal bulb. (b) Distal CDFs – periampullary typically connects to the distal 2 cm of the CBD.

A review of 1929 ERCPs in Japan found 33 cases (1.9%)⁵ of CDF. Another review of 1066 ERCPs in taiwan found 27 cases (2.5%). Historically, CDFs have been reported more frequently in females; proximal CDFs:2:1, distal CDFs 3:1. More recently, it has been suggested that proximal CDFs are more common in men. 75-90% of bilioenteric fistulas are associated with cholelithiasis and 5-6% are associated with duodenal PUD. In the past, 75-80% of CDFs reported in western countries were due to PUD, while only 15% in Japan. With improved treatment options for PUD,

these numbers appear to be changing.

80% of proximal CDFs are caused by a penetrating duodenal ulcer, in a patient with a long history of PUD; like in our case. Overall incidence of CDFs due to duodenal ulcers is low. Demonstration of an ostium in the duodenal bulb discharging bile during endoscopy is the most common means of diagnosis. Pneumobilia is an inconsistent finding, present in only 14-58% of patients, but reported first case was CDF. Barium reflux into the biliary tree is highly suggestive of the disease. Treatment of proximal CDFs due to ulcer disease is determined by the ulcer itself. Healing of ulcers frequently leads to the healing of the fistula. With recent advances in acid-suppression therapy, many authors advocate medical therapy, but they may require surgery if poor response to medical therapy. In the absence of primary biliary disease, there is minimal risk of cholangitis and biliary stricture.

In distal CDFs greater than 90% of cases are believed to be due to cholelithiasis or choledocholithiasis. Data is further supported by greater prevalence of Distal CDFs in cholelithiasis-endemic cholelithiasis, with right upper quadrant abdominal pain, fever and jaundice⁶. Ikeda classification of distal CDFs: Type I – fistula present on longitudinal fold, just adjacent to the papilla. Type II – Fistula present on duodenal mucosa, proximal and adjacent to the duodenal fold. Type I forms when small stone enters intramural portion of CBD. Fistulae and stones tend to be smaller. Type II forms, when a larger stone impacts in the extramural portion of CBD. Fistulas and stones are larger, with a 1.5 cm fistula and 4.2 x 2.6 x 2.5 cm stone reported.

In proximal CDF's, loss of positive pressure due to CDF's leads to inability of the gallbladder to fill and contract adequately, as stagnant bile in the GB may become a source of infection, so cholecystectomy is advocated. laparoscopic suturing or stapling can be performed concurrently as well. the remainder requires vagotomy and antrectomy or gastrojejunostomy. little literature exists regarding the surgical management of distal CDF's. Recommended precautions are hepaticoducho-jejunostomy more recently, fibrin sealants have been used to endoscopically close the fistula.

CONCLUSION

Choledochoduodenal fistula is a rarest complication of chronic duodenal ulcer and post op cholelithiasis. Ultrasound will demonstrate pneumobilia with signs suggestive of cholecystitis. ERCP is the imaging modality and demonstrate a choledochoduodenal fistula. long term aim of treatment should first be under observation. surgery is the treatment of choice for refractory cases.

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