

Case Report

Endoscopic Diagnosis of Cholecystogastric Fistula

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ABSTRACT

Biliary fistulas occur in 3%–5% of patients with gallstones. Duodenum is the most common site of fistulation. We report a case of elderly female with chronic calculous cholecystitis complicated by cholecystogastric fistula. The diagnosis of cholecystogastric fistula was made incidentally on esophagogastroduodenoscopy.

KEYWORDS: *Computed tomography, esophagogastroduodenoscopy, gallbladder, ultrasonogram*

INTRODUCTION

Cholecystogastric fistulas have been reported as far back as 1968.^[1] Biliary fistulas occur in 3%–5% of patients with gallstones,^[2] with the duodenum being the most common site of fistulation followed by the stomach.^[3] This case demonstrates that chronic calculous cholecystitis can get complicated with cholecystogastric fistula in long term if not managed early and can lead to diagnostic confusion with gallbladder (GB) or gastric malignancy.

CASE REPORT

A 65-year-old female presented with 4-month history of pain in the right hypochondrium and epigastric region. Pain was episodic, lasting 2–4 h, mild to moderate intensity, and radiating to back. Pain was aggravated with heavy meals and associated with nausea and occasional vomiting. There was no history of epigastric burning, hematemesis, melena, jaundice, clay-colored stool, fever, pruritus, loss of weight, and loss of appetite. Her general and systemic examination was within normal limits except for mild tenderness on deep palpation in the right hypochondriac region. She was evaluated in an outside medical facility initially for above complaints. Her routine investigations revealed hemoglobin of 12.7 g% with normocytic normochromic red blood cells, normal leukocyte, and platelet count. Her random glucose, liver, and renal biochemistries were within normal limits. Her transabdominal ultrasonogram revealed gallstone with thickened GB wall, dilated common and intrahepatic biliary radicals and non visualization of distal bile duct due to bowel gases. Her abdominal contrast-enhanced computed tomography (CECT) was done which

revealed asymmetric circumferential thickening of antropyloric region of the stomach which is abutting GB wall [Figure 1]. GB wall was thickened (5.8 mm) with evidence of cholelithiasis, choledocholithiasis and dilated intrahepatic and biliary radicals. She was referred to our clinic with presumed possibility of carcinoma stomach for esophagogastroduodenoscopy (EGD). Her EGD revealed a small fistulous opening in stomach antrum with pus exuding through the opening with surrounding hyperemia and thickening of antral mucosa [Figure 2].

Antral biopsies were taken and another CECT – abdomen was planned. Antral biopsy showed nonspecific chronic gastritis with no evidence of dysplasia or malignancy. Repeat CECT abdomen revealed asymmetric thickening of wall of GB and pyloric antrum of stomach with loss of fat planes. There were multiple gallstones with evidence of fistulous tract arising from GB fundus and communicating with distal body of stomach [Figure 3a]. There was also evidence of another fistulous tract arising from GB – neck and communicating with stomach pylorus [Figure 3b]. There was dilatation of common bile duct (CBD) and intrahepatic biliary radicals with evidence of choledocholithiasis in distal CBD. Image-guided fine-needle aspiration cytology from GB wall did not reveal any evidence of malignancy. Final impression of chronic calculous cholecystitis complicated by cholecystogastric fistula with choledocholithiasis was made. The patient was planned for elective open

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Access this article online

Quick Response Code:



Website: www.jdeonline.in

DOI: 10.4103/jde.JDE_44_17

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How to cite this article: Bodh V, Sharma R, Sharma B. Endoscopic Diagnosis of Cholecystogastric Fistula. *J Dig Endosc* 2018;9:32-4.



Figure 1: Arrow showing thickening of antropyloric region of stomach abutting gallbladder wall

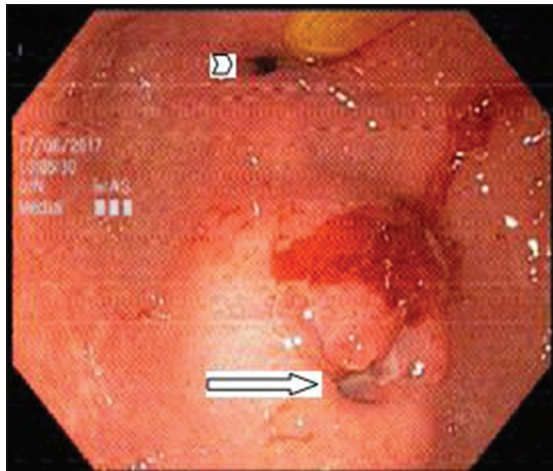


Figure 2: Arrow showing fistulous opening in stomach antrum with surrounding hyperemia and thickening, arrowhead showing pyloric opening

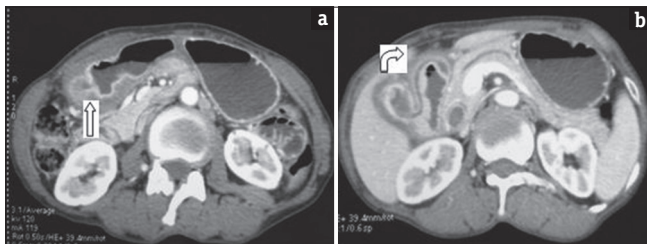


Figure 3: (a) Arrow showing fistulous tract between gallbladder fundus and distal body of stomach (b) arrow showing fistulous communication between gallbladder neck and stomach pylorus

cholecystectomy with CBD exploration with fistula repair. EGD not only helped in making the diagnosis of cholecystogastric fistula preoperatively but also helped excluding the gastric malignancy.

DISCUSSION

Biliary fistulas occur in 3%–5% of patients with gallstones,^[2] with the duodenum being the most

common site of fistulation followed by the stomach.^[3] Cholecystogastric fistula results from the gradual erosion of the approximated chronically inflamed wall of the GB and stomach with fistulous tract formation.

In most cases, fistulating gallstone is passed with the stool without causing any obstruction, as is seen in our case. In some cases, large stone leads to obstruction of the gastrointestinal tract. This most commonly occurs at the level of terminal ileum and ileocecal valve and is termed as “gallstone ileus.”^[4] Gastric outlet obstruction due to a fistulating gallstone is termed as “Bouveret’s syndrome.” This most commonly occurs in females in the seventh and eighth decades of life.^[5]

Abdominal CT is the modality of choice when investigating a patient with suspected biliary fistula. CT manifestations of a biliary fistula include two approximated organs with an edematous wall, pericholecystic inflammatory change, pneumobilia, a gallstone in the gastrointestinal tract, bowel dilatation, and direct visualization of the fistula.^[4,6] The reported CT appearance of cholecystogastric fistulas included a slight deficiency of the GB wall and close adherence of the edematous wall of the gastric antrum and the thickened wall of the GB fundus.^[4] The classic radiologic features of gallstone ileus include Rigler’s Triad – intestinal obstruction, pneumobilia, and ectopic stone.^[6] In the present case, the wall of GB and antropyloric region of the stomach was thickened, edematous, and closely adhered. There was evidence of fistulous communication between fundus and neck of GB and body and antrum of stomach.

Endoscopic retrieval of the stone as treatment of cholecystogastric fistulas offers a safer and more prudent solution especially in patient group with associated comorbidities. Endoscopic lithotomy or lithotripsy should always be considered before surgery.^[7] The presence of large gallstones (3 cm), gastrointestinal hemorrhage, stone impaction, and improper or partial stone manipulation are the factors responsible for the failure of endoscopic stone retrieval.^[7]

Cholecystogastric fistulas were once associated with high mortality. Majority of cases are now managed successfully due to improved radiological and endoscopic modalities and subsequent surgical intervention. Many still argue that “one-stage” surgery involving stone removal, fistula repair, and cholecystectomy remains the only effective means of treatment.^[8] There is also increasing evidence for the use of interval cholecystectomy in patients, where the removal of the GB at the time of first operation is deemed inappropriate.^[8-10] Some argue that the patient should undergo “two-stage” surgery and return for

cholecystectomy and fistula repair given the risk of disease recurrence.

Chowbey *et al.* investigated the role of laparoscopic cholecystoenteric fistula transaction using an endostapler with good results,^[3] avoiding contamination of the peritoneal cavity. Intracorporeal suturing of the fistulous defect is another laparoscopic option.^[3]

CONCLUSION

This case demonstrates that chronic calculous cholecystitis can get complicated with cholecystogastric fistula in long term if not managed early and can lead to diagnostic confusion with GB or gastric malignancy. Endoscopy can be both diagnostic and therapeutic in cholecystogastric fistulas.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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