

## Cholecystoduodenal Fistula with Gallstones Ileus, A Case Report

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### Abstract

### Case Report

We presented a case of cholecystoduodenal fistula in a 60year old female who presented with pain in right upper and mid abdomen due to recurrent inflammation in the gall bladder which lead to formation of a cholecystoduodenal fistula. She also had complain of not passing stool and flatus due to migration of stone in to distal ileum through the fistula. The fistulous tract was taken down with a cholecystectomy and duodenum repaired with a modified Graham patch.

Keywords: cholecystoduodenal fistula, cholecystectomy, stool & flatus.

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## INTRODUCTION

Bilioenteric fistula are communication between biliary system and gastrointestinal tract. It is an uncommon complication of an untreated gall stone. It also can occur spontaneously or due to malignant tumor. Among bilioenteric fistula cholecystoduodenal fistula is most common (apprx 75%) [1]. No clinical symptom is characteristic of bilioenteric fistula with the exception of gallstone obstructing intestinal tract.

Gallstone ileus (GI) is characterized by occlusion of the intestinal lumen as a result of one or more gallstones.

Classical findings on plain abdominal radiography include: (1) pneumobilia; (2) intestinal obstruction; (3) an aberrantly located gallstone; and (4) change of location of a previously observed stone.

The management of acute GI is controversial and can be: (1) enterotomy with stone extraction alone; (2) enterotomy, stone extraction, cholecystectomy and fistula closure; (3) bowel resection alone; and (4) bowel resection with fistula closure.

The mortality associated with GI ranges between 12% and 27% [7]. CT scan is an useful

diagnostic modality for demonstration of the obstructing calculous and the bilioenteric fistula.

## CASE REPORT

A 60 year old hindu female presented to the emergency department of SCBMCH, cuttack on 29/08/2020 with chief complain of pain in mid and right upper abdomen for 10days and vomiting for 10days and not passing stool & flatus for 7days.

The pain was dull aching in nature with occasional severe pain in mid and right upper abdomen, no radiation of pain, pain decreased on vomiting and increased on taking fatty food.

It as associated with vomiting which was bilious occuring 2-3 times a day, non projectile in nature. She also complained of abdominal distension and decreased appetite. No history of fever, diarrhea, jaundice.

On physical examination patient was consious,oriented,afebrile, averagre body built. On per abdomen examination distension of abdomen present and tenderness at epigastrium and right hypochondrium.

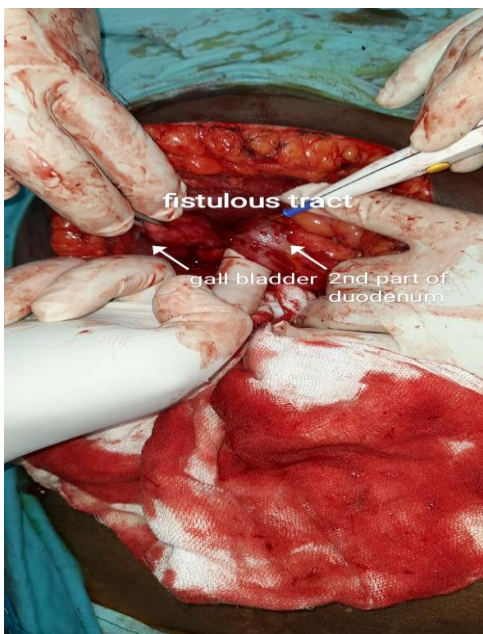
Patient has similar history of pain in right hypochondrium since last 1year intermittently for which she was admitted to hospital 1month back.

**BLOOD PARAMETER-** she was found to be anemic (Hb 9.6) with normal leucocyte count of 10,600. Her potassium level was low (3.1) and sodium was 132mmol/dl. LFT and serum amylase lipase was in normal range.

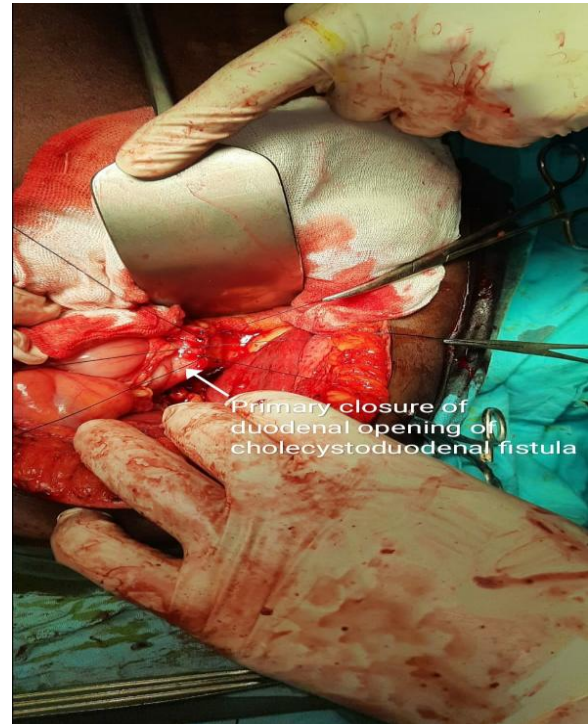
USG abdomen showed air in gall bladder wall and lumen (pneumobilia) contracted gall bladder, dilated fluid filled small bowel lumen with an echogenic obstructing focus (28mm) in small bowel lumen.

CT SCAN showed partially contracted GB with intraluminal air. A linear tract (4mm) extending from the medial wall of GB to first part of duodenum, minimal central pneumobilia and a dilated (36mm) small bowel loop with central hyperdense and peripherally calcified calculous (size- 25mm) in distal part of ileum.

Then the patient was planned for exploratory laparotomy after normalisation of blood parameter. During operation pathology identified a fibrotic gallbladder with cholelithiasis, transmural chronic inflammation and a cholecystoenteric fistula that measured 2 cm in length with a 0.8 cm diameter gallbladder orifice. Fistulous tract connecting GB and 2<sup>nd</sup> part of duodenum was found (Figure-1). Then complete cholecystectomy done, fistulous tract was removed and primary closure of duodenum (Figure-2) was done. Omental patch placed over the closure. Exploration revealed massively dilated loops of the small bowel proximal to the distal ileum. An obstruction was seen 50 cm from the terminal ileum, where an enterotomy was made to reveal a large gallstone (3 cm × 2.5 cm × 3 cm). The gallstone was removed and the enterotomy repaired in two layers.



**Fig-1**



**Fig-2**

## OUTCOME

Patient developed leakage of bile from drain (200ml /day) upto POD 8. Then gradually it was decreased and drain was removed on POD 11. She also had chest discomfort and difficulty in breathing in early post operative period which got subsided after medication. Then the patient was discharged and on follow up patient remain healthy.

## DISCUSSION

Intestinal obstruction secondary to a large enteric gallstone is a rare phenomenon occurring in less than 6/1000 cases of cholelithiasis. As a single gallstone enlarges to a larger size, often greater than 2 cm [2], it rests fixed in the most dependent location within the gallbladder. The weight of a large stone causes pressure necrosis of the wall of the gallbladder which induces an inflammatory response which is the pathophysiology of the fistula formation. A surrounding hollow viscous, most often the duodenum but also stomach, jejunum or colon, becomes involved in the inflammatory process and as the gallstone erodes through the wall of the gallbladder, a fistula is formed to the adjacent bowel [3].

Cholecystoduodenal fistula had become the primary route for bile drainage into the duodenum. The gallbladder was therefore continually compressed, which explains its contracted appearance and absence of stone in gall bladder (due to migration of stone in to the bowel through the fistula tract).

Both Ultrasound and CT scan reveals a large stone in the distal ileum which may be the cause of intestinal obstruction and dialation of small bowel proximal to the stone. Pain is due to recurrent gall bladder inflammation leading to fistula formation.

As here the obstructing stone is >2cm, surgical treatment is the most effective method of treatment [4]. This patient had undergone an open surgery due to presence of severe inflammation. At follow-up the patient remained symptom free and tolerant of a low fat diet.

## CONCLUSION

GI is a rare condition affecting mainly the older population with a female predominance. If GI occurs in elderly patients with comorbidities, the often vague, intermittent symptoms may delay the diagnosis by days. The advent of computed tomography and magnetic resonance imaging has made it easier to diagnose GI. In 50% of cases, the diagnosis is often only made at laparotomy[6].GI patients are usually elderly and have comorbidities so enterotomy with stone extraction alone appears to more suitable than more invasive techniques because of its low incidence of complications

5% of patients who have undergone enterolithotomy alone go on to develop biliary symptoms [7] and the risk of patent fistula reflux and resulting biliary malignancy. So a delayed cholecystectomy should be considered. Many of these cases of cholecysto-duodenal fistulas are solved by laparoscopic surgery taking advantage of the benefits of this type of approach.

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