

**CASE REPORT**

## **Cholecystoduodenal Fistula: An Intraoperative Diagnosis**

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**Abstract**

We report a case of chronic cholecystitis that had no preoperative diagnosis of cholecystoduodenal fistula but was found during laparoscopic cholecystectomy and was managed successfully.

**Key Words**

Cholecystitis, Cholecystoduodenal Fistula, Gallstone

**Introduction**

Gallstones cause multiple sufferings to human beings. One of the rare problems is biliary enteric fistula. It needs a high degree of suspicion and good clinical acumen to diagnose them preoperatively. The most common type of biliary enteric fistula is cholecystoduodenal fistula (70%) followed by cholecystocolic fistula (10-20%) and the least common cholecystogastric fistula (1-3). Herein, we report a case of chronic cholecystitis that had no preoperative diagnosis of cholecystoduodenal fistula but was found during laparoscopic cholecystectomy and was managed successfully.

**Case Report**

A 45 years old female with no previously significant medical history came with the chief complaints of pain right upper quadrant abdomen for 3 years. It was mild, episodic and often aggravated by fatty foods. There was also a history of dyspepsia. She was never jaundiced and did not ever require a hospital admission for her pain. The patient was evaluated clinically. Her blood counts, blood chemistry, electrolytes, ECG, radiographs of chest and abdomen were all normal. Her ultrasound abdomen revealed thick walled gallbladder with multiple calculi inside with pneumobilia; common bile duct was of normal

caliber. The patient was diagnosed as a case of chronic cholecystitis and laparoscopic cholecystectomy was offered to the patient and consent taken for the same.

Four standard ports were made and 30 degrees laparoscope introduced. It was noted that there were lot adhesions of omentum with the gallbladder which was barely visible. The Calot's triangle was virtually inaccessible. It was decided to proceed laparoscopically as far as the surgeon was comfortable. Dense adhesions between the gallbladder and omentum were separated both by sharp and blunt dissection. Then duodenum (followed from stomach onwards) was found to be



*Fig 1. Duodenum (Followed From Stomach Onwards) was Found to be Adherent to the Gallbladder Neck*

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Fig 2. Cholecystoduodenal Fistula



Fig 3. Laparoscopic Cholecystectomy

adherent to the gallbladder neck (Fig 1). Meticulous dissection was done which revealed the presence of cholecystoduodenal fistula (Fig2). Laparoscopic cholecystectomy was performed after demarcating the cystic duct completely and the fistula was taken using an Endo GIA stapler (Fig 3). Postoperatively the patient remained stable. Nasogastric tube was removed on third postoperative day when clear water sips were started followed by semisolid and solid diet as the patient tolerated them.

### Discussion

Gallstones are the most common afflictions of the hepatobiliary system. Most often they remain asymptomatic or they may cause multiple problems. Biliary enteric fistulas are very uncommon afflictions of gallstones. Spontaneous biliary enteric fistulae have rarely been reported. The most common type of biliary enteric fistula is Cholecystoduodenal fistula (70%) followed by cholecystocolic fistula (10-20%) and the least common cholecystogastric fistula. The most common cause is

pressure necrosis due to an impacted gallstone usually in the neck of gallbladder, which gradually erodes into the duodenum. Another cause is a sequence of events which occurs during an attack of cholecystitis when adjacent serosa becomes inflamed and adherent to gallbladder. The ischemic area in the wall of gallbladder becomes gangrenous, and because of increased pressure within, its contents penetrate its own necrotic wall first, and then, the wall of adjacent duodenum or colon, forming a fistula (1). Another rare cause is trauma. Only a few cases have been reported in literature regarding the management of cholecystoduodenal fistula (2,3). The most common aids in diagnosis are plain film abdomen which reveals pneumobilia, Ultrasonography and ERCP (4). Although a diagnosis of cholecystoduodenal fistula is rarely suspected clinically but it should be considered in patients with recurrent attacks of acute cholecystitis and the evidence of pneumobilia. Laparoscopic surgery is not a contraindication for the management of such cases (5).

### Conclusion

Biliary enteric fistula though is a rare problem. It needs a high degree of suspicion and good clinical acumen to diagnose them preoperatively, although even if diagnosed postoperatively, can be managed by laparoscopic surgery.

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