Laparoscopic Management of Incidentally Detected Cholecystogastric Fistula – Report of Two Cases

Sir,

Biliary fistula can be defined as an abnormal communication between a portion of biliary tree and other organ/area. It can be classified as external (*e.g.* cholecystocutaneous) or internal (*e.g.* bilio-enteric, bilio-bilial, broncho/pleuro-bilial *etc.*). In bilio-enteric fistulas, cholecysto-duodenal and cholecysto-colic fistulas are common; whereas cholecysto-gastric (CCG) fistulas are rare.[1] These have been reported in literature firstly in 1968,[2] and had high mortality associated with them. The preoperative diagnosis of this fistula is difficult and is commonly missed.[3] Here, we report two cases of incidentally detected cholecysto-gastric fistula during laparoscopic cholecystectomy for cholelithiasis and its laparoscopic management.

Case 1: A 24-year young girl diagnosed with cholelithiasis was admitted for elective cholecystectomy. She was symptomatic for gallstone disease for the past two years and had history of admission for acute cholecystitis. Last episode of severe pain was more than six months back. General and systemic examinations were essentially normal. Ultrasound of the abdomen revealed multiple gallstones with features of chronic cholecystitis, i.e. thickened gallbladder wall.

Intraoperatively, gallbladder was adhered to omentum, colon, and stomach. After delineating the structures and removing the adhesions, a tubular structure/communication was identified connecting stomach and the fundus of gallbladder (Figure 1). Hence, diagnosis of cholecystogastric fistula was made. The case was further proceeded with laparoscopic approach and the fistula tract was ligated, and endosuturing was done. Cholecystectomy was completed and specimen sent for HPE (histopathological examination), which was found to be chronic calculous cholecystitis.

Case 2: A 31-year lady diagnosed with cholelithiasis was admitted for elective cholecystectomy. She was symptomatic for gallstone disease for the past one year and had history of admission for acute cholecystitis four months back. Ultrasound of the abdomen revealed single large 22-mm calculus in gallbladder lumen with features of chronic cholecystitis, *i.e.* thickened gallbladder wall.

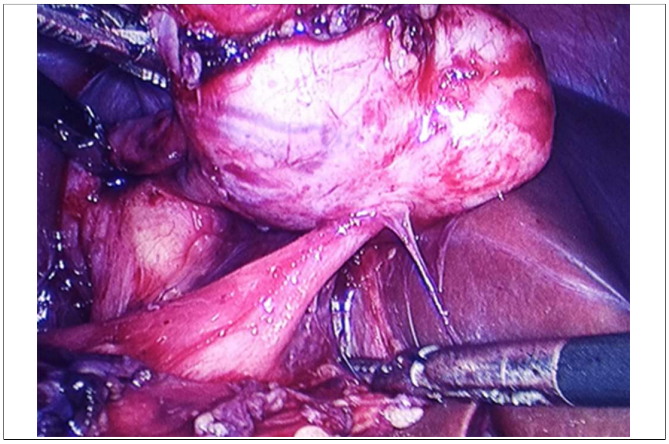

Figure 1: Fundus of gallbladder communicating with stomach through fistula.

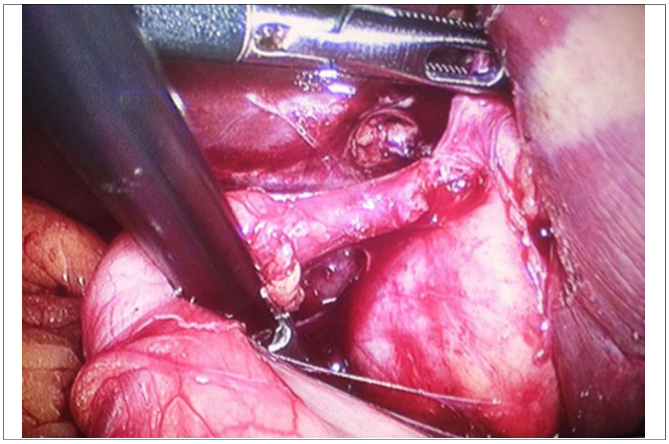

Figure 2: Fistula between body of gallbladder and stomach.

Intra-operatively, gallbladder was adhered to omentum and stomach. After removing the adhesions, a tubular structure/communication was identified connecting stomach and the body of gallbladder (Figure 2). Diagnosis of cholecystogastric fistula was made and fistula tract was ligated and endosuturing was done. Cholecystectomy was completed and specimen sent for HPE, which was reported as chronic calculous cholecystitis.

Biliary fistula can occur as a complication of gallstones in 3-5% of patients.[4] The fistulous tract forms from the gradual erosion of the chronically inflamed and densely adherent wall of the gallbladder and stomach. The other etiological factors are peptic ulcer, iatrogenic/trauma, and malignancy.[5] The clinical features of internal fistula due to non-malignant causes, chronic cholecystitis, and dyspepsia are similar. Hence, it is difficult to diagnose this condition clinically. Our both patients had history of cholecystitis, for which conservative management was done. But whether the presentation was due to CCG fistula or the fistula was sequel of it, is debatable.

The fistula can lead to migration of stone into small intestine which can lead to gallstone ileus when it gets impacted in it, most common site being terminal ileum. In both the cases, the fistula lumen was smaller than the stone size. Hence, migration was prevented. Many people advocate two-stage management/surgery in case of gallstone ileus.

Nowadays, majority of cases are being managed with improved diagnostic means and therapeutic modalities (endoscopic, laparoscopic, endostaplers). Chowbey *et al*. in their study showed that these cases can be managed successfully by using endostaplers.[6] In our both cases, the fistulas were managed by endosuturing/ intra-corporeal suturing; and cholecystectomy was done in the same stage.

At the time of surgery, any suspicion of fistula warrants a careful and cautious approach by the surgeon. Careful layer by layer dissection, minimal use of electrocautery, preference for blunt dissection, using the landmarks (critical view of safety, Rouviere's sulcus) for guidance, and a careful delineation of any anteriorly located structure are some of the basic principles which need to be followed for a good patient outcome.

CCG fistula is a rare complication of cholelithiasis which can be managed by laparoscopic approach but it requires a patient approach and high skills of the surgeon.

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