



Cholecystogastric fistula.

A case report and literature review



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Gastrocystogastric fistula. A case report and literature review

Cholecystogastric fistulas is a rare complication of gallstone. Even if well described in the literature, this condition still poses a debate on diagnosis and surgical treatment. We present a case of a 35 year's old female which unexpectedly presented a cholecystogastric fistula during a laparoscopic cholecystectomy, treated successfully with fistula transection and repair and cholecystectomy through an open access. The open access remains the preferable option in this cases but laparoscopic techniques are being used worldwide with increasing success. The preoperative diagnosis remains difficult for the unspecific symptoms.

KEY WORDS: Biliodigestive Fistula, Gallstone Ileus, Gastric Fistula, Biliary Fistula, Cholecystitis

Introduction

Cholecystogastric fistula is a type of cholecystoenteric fistula. Although well described in the Literature, the optimal surgical treatment of this complex problem remains a matter of debate ¹. The cholecystogastric fistula was first described in 1968 ².

We describe a case of cholecystogastric fistula detected during a laparoscopic cholecystectomy with a brief review of the literature.

Case Report

A 35-year-old Caucasian female presented to our institution, having been referred by her GP, with a five year's history of epigastric pain, nausea and multiple episodes

of vomiting. Her medical history was significant for a depression. She had no history of foreign body ingestion, malignancy, radiotherapy or inflammatory bowel disease. She also had no history of previous gastrointestinal tract obstruction.

On examination her abdomen was soft, and she didn't have a positive Murphy's sign. No relevant alterations were found on hematological tests. An abdominal ultrasonography scan showed gallbladder stones with a thick-walled gallbladder, with signs of chronic cholecystitis.

An intervention of laparoscopic cholecystectomy was proposed, and the patient accepted. During the operation a strict adhesion between the fundus of the gallbladder and the gastric antrum was found (Fig. 1). Due to technical difficulty to dissect laparoscopically, the operation had to be converted to open and a subcostal (Kocher) incision was created. The diagnosis of cholecystogastric fistula was confirmed with the finding of a fistula between the fundus of the gallbladder and the stomach antrum. The fistula was divided, the gallbladder resected by antegrade dissection method, the cystic artery and ducts identified and ligated, and gallbladder was removed. The stomach fistula site was primarily repaired with endo-GIA stapler. The patient postoperatively had uneventful recovery and discharged home after three days.

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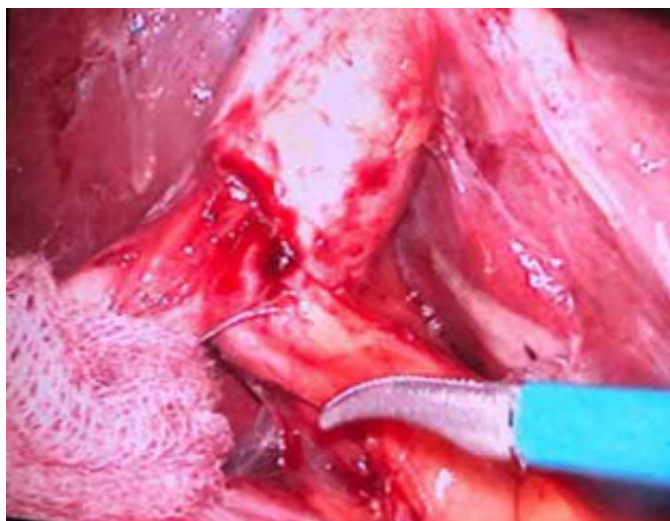


Fig. 1

Discussion

The worldwide prevalence of gallstones is estimated to be between 5 and 25%. The incidence of the bilioenteric fistulas with gallstones has ranged between 0.15 and 8%³. They can happen because of chronic inflammation and erosion of the gallstones due to pressure effect into the nearby enteric lumen (stomach, duodenum or even colon). Based on this physiopathological process, cholecystoenteric fistulas must be considered the late evolving stages of the Mirizzi's Syndrome⁴.

Bilioenteric fistulas are classified as 1) cholecystoduodenal fistulas: 40%; 2) cholecystocolic fistulas: 28%; 3) cholecystogastric: 32%⁵. Large stones, recurrent cholangitis, female sex, and old age are risk factors for bilioenteric fistulas^{6,7}.

Fistula formation usually follows repeated attacks of acute cholecystitis during which the serosal surface of the gallbladder becomes inflamed and adheres to the adjacent viscera. The adherent adjacent inflamed intestinal wall is finally penetrated, completing the fistulous tract and resulting in internal cholecystostomy and decompression^{8,9}.

In the absence of stones, a bilioduodenal or more complex fistula can be caused by peptic ulcer or hydatid disease.

The risk with fistulation is subsequent obstruction of the gastrointestinal tract which, interestingly, is reported to occur most commonly in the terminal ileum and ileocecal valve¹. In some cases, the patients can display signs of gastric obstruction, which when due to a fistulating gallstone, is termed Bouveret's syndrome.

Preoperative diagnosis of biliodigestive fistulae is very difficult because of the lack of specific signs and symptoms. Most of patients show classical signs of cholelithiasis like flatulent dyspepsia, nausea, and vomiting. Less

frequent symptoms are jaundice or diarrhea¹⁰. A long history of cholelithiasis, especially >5 years, should raise suspicion for the presence of CEF.

The predictive value of US for detecting CEF remains low, but a thick-walled gallbladder and atrophic cholecystitis were relatively common among patients with CEF.

However, US can provide important clues to the diagnosis of CEF by detecting cholecystitis and pneumobilia in the highly suspected cases. In cases of high suspicion of a cholecystoenteric fistula a CT scan is indicated to complete the diagnostic work-up. The reported CT appearances of cholecystogastric fistulas included a slight deficiency of the gall bladder wall and close adherence of the edematous wall of the gastric antrum and the thickened wall of the gall bladder fundus¹¹.

Furthermore, CT scan can demonstrate pneumobilia, stones in the GI tract or the atrophied gallbladder suggesting the diagnosis preoperatively.

Percutaneous transhepatic cholangiography, endoscopic retrograde cholangiopancreatography, or magnetic resonance cholangiopancreatography would show more definitively the fistulous tract, but these modalities are more invasive and time consuming.

When a gallstone ileus is present, it can be present the Rigler triad consisting of aerobilia, air-fluid levels and ectopic calculi^{12,13}. If the patient has jaundice or is diagnosed with choledocholithiasis, ERCP can be used to detect CEF before extracting the stones from the common bile duct. Some reports show the possibility to visualize the fistula with a gastroscopy and an attempt to remove the stones can be done¹⁴. However, in most cases the fistula is discovered intraoperatively during a routine laparoscopic cholecystectomy.

During laparoscopic surgery, extensive, dense adhesions around the gallbladder are usually found. After separating the omentum from the gallbladder, the gallbladder and the injured part of gastrointestinal tract are connected with each other.

Glenn et al.¹⁵ recommended that CEF should be treated by open cholecystectomy combined with excision and closure of the fistula. In particular, if a patient has both a double fistula and severe adhesion, open surgery will be an ideal surgical procedure¹⁶.

In the last year's several authors have described the possibility of laparoscopic treatment of this condition. The patient's clinical condition, local expertise and the best postoperative outcome for the patient should guide the choice of laparoscopic versus open and one-stage versus two-stage approach. Many surgeons still prefer the conversion into open approach rather laparoscopic for better ability of tissue dissection due to the intense adhesions and inflammation in these cases. Chowbey et al. reported that management of these fistulas laparoscopically, laparoscopic cholecystectomy with transaction of fistula tract and laparoscopic repair of the fistula into the enteric wall, with only 6.3% conversion rate¹⁷.

Hence, laparoscopic approach should be considered depending on patient comorbidities and local expertise^{18,19}.

Another aspect of surgery is the one-stage versus two-stage operation. The two-stage approach includes the transection of the fistula and repair in the first operation and delayed cholecystectomy in the second operation. The choice must be taken in bases of patient conditions and emergency setting of the clinical presentation. However, endoscopic lithotomy or lithotripsy can be considered before surgery in selected cases²⁰.

In our case, the operation converted into open surgery due to the density of the adhesions specially at the Calot's triangle and the patient did have a good post-operative recovery with one stage approach.

Riassunto

La fistola colecisto-gastrica è una rara complicanza della calcolosi biliare. Anche se ben descritta in Letteratura, questa condizione rappresente ancora una fonte di controversi sulla diagnosi ed il trattamento. Presentiamo il caso di una donna di 35 anni che inaspettatamente ha presentato in corso di colecistectomia laparoscopica una fistola colecisto-gastrica, trattata con successo con la transezione della fistola e colecistectomia con accesso laparotomico. L'accesso open rimane quello raccomandato per questa rara condizione tuttavia una riparazione laparoscopica viene proposta da diversi autori con sempre maggiore frequenza. La diagnosi preoperatoria resta comunque difficile a causa della sintomatologia aspecifica.

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