

# Cholecystocolonic fistula as a complication of cholelithiasis: A rare case.

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## Abstract

Cholecystocolonic fistulas are a rare complication of gallstones. A 53-year-old woman presented to the emergency department with non-specific abdominal complaints. Diagnosis was made ultimately by exploratory laparoscopy after highly suspicious preoperative studies. An open cholecystectomy was performed with repair of the colonic portion of the fistula. Pathology showed no malignancy.

## INTRODUCTION

Biliary-enteric fistulas are an unusual complication of gallstones. They are most commonly associated as a complication of gallstones, but other etiologies include malignancy, trauma and inflammatory change of adjacent organs. It is a disease mostly associated with females and the elderly<sup>1</sup>. The diagnosis usually requires a high index of suspicion mainly due to non-specific symptoms.

## CASE REPORT

A 53-year-old African-American female with past medical history of gallstones came to the emergency room complaining of diffuse abdominal pain for two days and a generalized fatigue for several months. On physical examination, her vital signs were stable and she was afebrile. She was morbidly obese and had a non-distended abdomen. She demonstrated diffuse abdominal pain. Her CBC, Chem7 and LFT's were all within normal values except for an ALT of 50 and an AST of 67. CT of her abdomen and pelvis (Figure 1) revealed a collapsed gallbladder and a tiny focus of gas within this region. U/S of the RUQ revealed multiple shadowing gallstones, a dilated common bile duct of 10mm and intraluminal gallbladder air without pericholecystic fluid or gallbladder wall thickening. Her work-up also included an ERCP, which did not demonstrate filling of the cystic duct and showed a tapered segment of the common bile duct, which was dilated with free flow of bile and no stones in the common bile duct. Also, a HIDA scan showed findings suggestive of acute cholecystitis. The patient underwent laparoscopic cholecystectomy but it was noted that there was an apparent fistulous connection where the gallbladder was

intermittently adherent to the colon. At that time it was therefore decided to perform an open cholecystectomy with a resection of the colonic fistula and a repair of the colonic portion of the fistula. The patient did well postoperatively and went home without any complications. Pathology results showed chronic calculous cholecystitis with mild chronic inflammatory changes of connective tissue.

## Figure 1

Figure 1: CT of abdomen and pelvis; white arrow showing a tiny focus of gas within the gallbladder.



## DISCUSSION

Biliary-enteric fistulas are mostly a complication of gallstones (90%), but can also occur as a consequence of peptic ulcer disease, Crohn's disease, malignancy or trauma<sup>1,2,3</sup>. The most common type of communication is the cholecystoduodenal fistula (70%), followed by

cholecystocolonic (14%) and cholecystogastric fistula (6%)<sup>1,2</sup>. Complications of biliary-enteric fistulas include: ascending cholangitis, gallstone ileus, weight loss, malabsorption syndrome, gastrointestinal bleeding and malignancy. The most common presenting symptoms of non-obstructing biliary-enteric fistulas are abdominal pain, nausea and diarrhea. Diarrhea and weight loss can be explained due to the fact that a cholecystocolonic fistula can affect the enterohepatic circulation, leading to a malabsorption syndrome and an increase in secretion of water and electrolytes from the colon. Bile loss can be partially compensated with an increased hepatic bile acid synthesis. But when the loss is greater than what the liver can compensate, dietary fat solubilization is compromised, leading to steatorrhea<sup>3</sup>. Small-bowel obstruction can present most commonly due to a cholecystoduodenal fistula. Similarly but rarely, a cholecystocolonic fistula can cause a large-bowel obstruction with stone impaction at rectosigmoid diverticula<sup>3</sup>.

Diagnosis is exceptionally difficult and requires high index of suspicion. Preoperative studies may include ultrasound, CT scan, ERCP, HIDA scan and barium enema. However, in this case the diagnosis was made during laparoscopic exploration of the abdomen. The gold standard treatment for non-obstructing biliary-enteric fistulas is open cholecystectomy with closure of the fistula. Laparoscopic surgery, given its aesthetical advantages and questionable

increase in operative time, has not shown significant difference in intraoperative or postoperative complications<sup>3</sup>.

## **CONCLUSION**

Biliary enteric fistulas are a rare complication of gallstones, but malignancy and other known etiologies must be ruled out to guarantee patient care. Diagnosis is difficult and may require diverse preoperative studies. Open cholecystectomy with closure of the fistula remains treatment of choice for non-obstructing cholecystocolonic fistulas.

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