

# Rare and Unexpected Cause of Large Bowel Obstruction

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## INTRODUCTION

**C**holecystocolic fistula is a rare form of biliary-enteric fistulae that typically form between the gallbladder and hepatic flexure. The presence of cholecystocolic fistula is usually an incidental finding seen during cholecystectomy.<sup>1</sup> When presenting with symptomatic disease, surgical treatment, fistula takedown and possible colon resection are indicated.<sup>1</sup> Patients usually present with atypical symptoms, especially in elderly.<sup>1</sup> Subtle signs and symptoms, such as abdominal pain and diarrhea are most frequently associated with chronic onset of cholecystocolic fistulas.<sup>2</sup> An uncommon complication of gallstone disease is an impaction in the colon from a stone that travels through the cholecystocolic fistula.<sup>1</sup>

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Informed Consent Obtained: Patient consent for publication of the case details and imaging

In high-risk patients, depending on the gallstone size and location, retrieval is accomplished by endoscopy.<sup>3</sup> Otherwise, management of large bowel obstruction may be treated surgically. Despite modern diagnostic tools, this condition can be missed. Therefore, we focus our case on the unpredictability of gallstones and its gastrointestinal complications.

## Case Report

We present an 80-year-old woman with no known prior medical history who presented to the emergency department with complaints of epigastric pain, nausea and emesis. She denied bowel habit changes, but she reported her stools were intermittently loose. She also denied any presence of hematochezia or melena. On admission, she was afebrile and all other vitals were in normal limits. Her examination revealed a diffusely tender abdomen to mild palpation. Admission bloodwork was significant for leukocytosis of 14.9 K/uL, normal liver biochemistries and lactic acid within

*(continued on page 56)*

## A CASE REPORT

(continued from page 54)

normal range. Clinical findings prompted imaging with acute abdominal series which revealed pneumobilia and ileus. Computed tomography of the abdomen confirmed the fistula location and noted a 3 cm wide gallstone (yellow arrow) within the hepatic flexure causing large bowel obstruction and fistulous tract (green arrow), [Figure 1]. Further investigation led to a hepatobiliary (HIDA) scan, which revealed findings of a fistulous tract between the gallbladder and hepatic flexure (blue arrow) of the colon with cystic duct patency. The HIDA scan showed gallbladder activity seen around 25 minutes. The activity was subsequently seen draining preferentially into what appeared to be a fistulous tract between the gallbladder and hepatic flexure of the colon almost immediately (blue arrow) [Figure 2]. Gastroenterology was consulted for direct visualization with colonoscopy revealing an obstructed colon at the hepatic flexure from a gallstone with ischemic mucosal changes requiring surgical intervention. The patient was promptly taken for exploratory laparotomy revealing a large mobile mass within the transverse colon. Due to the viability of the colon, a colotomy was performed to extract the massive gallstone [Figure 3]. The colotomy was also used to identify the cholecystocolic fistula, which was confirmed by an intraoperative cholangiogram. The fistula was taken down, resected and mucosa was repaired. Surgical intervention was successful and without complications. The patient made a full recovery and was discharged home in stable condition.

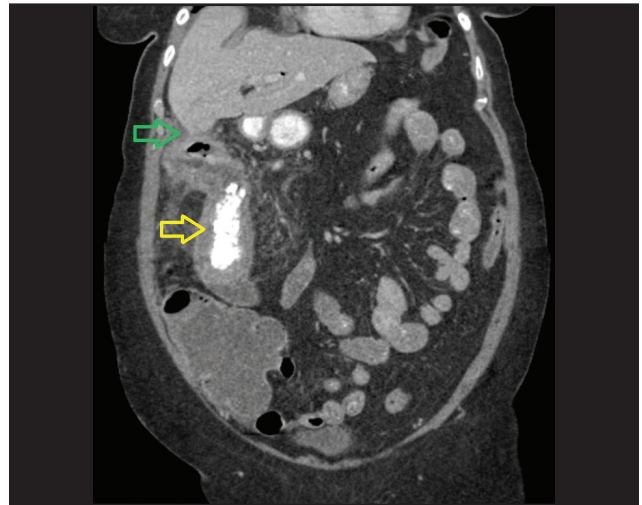


Figure 1.

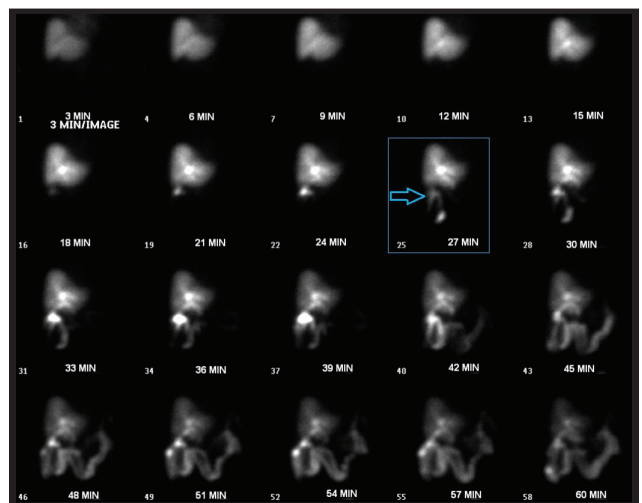


Figure 2.



Figure 3.

## Discussion

Gallstones are a rare cause for intraluminal large bowel obstruction and symptoms are not always pronounced.<sup>4</sup> The occurrence of large bowel obstruction by a gallstone through a cholecystocolic fistula is a rare complication of gallbladder disease. The underlying pathophysiology of cholecystocolic fistulas is related to chronic inflammation due to gallstones, however, other mechanisms have been described, including gallbladder malignancy, previous gastric surgery, prior cholecystectomy and penetrating abdominal wounds.<sup>5</sup> The commonly described symptom in cholecystocolic fistula is diarrhea related to malabsorption due to bile

acids bypassing enterohepatic recirculation in the terminal ileum and having a laxative effect in the colon.<sup>4,5</sup> Additionally, the presence of a mechanical bowel obstruction can cause overflow fecal incontinence. In less severe cases, symptoms can be nonspecific and preoperative diagnosis often fails to show such a rare condition.<sup>6</sup> The gallbladder size and symptomatology of our patient was suggestive of chronic subclinical disease. Fortunately, in this case, diagnostic imaging was able to find the source to achieve a diagnosis. Therefore, it quickly identified the need for appropriate evaluation with colonoscopy prior to surgery. The acuity of this case makes it high risk for biliary sepsis due to the cholecystocolic fistula communicating with an intestinal lumen, a site with very high bacterial load.<sup>7</sup> Sepsis was not detected in this case and the patient underwent an uncomplicated surgical extraction of the gallstone by colotomy with closure and repair of the cholecystocolic fistula.

## CONCLUSION

Ischemia and sepsis are critical points in a patient with large bowel obstruction caused by a massive gallstone through a fistulous tract, therefore a diagnosis and intervention should be made promptly. This case demonstrates the collaborative

interventions of subspecialties and importance of endoscopic evaluation along with contemporary diagnostic methods prior to surgical intervention of a large bowel obstruction caused by gallstone. ■

## References

1. Balent E, Plackett TP, Lin-Hurtubise K. Cholecystocolonic fistula. *Hawaii J Med Public Health*. 2012;71(6):155-157.
2. Spangler R, Van Pham T, Khoujah D, Martinez JP. Abdominal emergencies in the geriatric patient. *Int J Emerg Med*. 2014;7:43. Published 2014 Oct 21. doi:10.1186/s12245-014-0043-2
3. Wang W, Liu B, Qi K, Shi X, Jin Z, Li Z. Efficacy and safety of endoscopic laser lithotripsy and lithotomy through the lumen-apposing metal stent for giant gallbladder stones. *VideoGIE*. 2020;5(7):318-323. Published 2020 May 7. doi:10.1016/j.vgie.2020.03.005
4. Reddy AK, Dennett ER. Cholecystocolonic fistula: a rare intraluminal cause of large bowel obstruction. *CaseReports* 2016;2016:bcr2016217141.
5. Costi R, Randone B, Violi V, Scatton O, Sarli L, Soubrane O, Dousset B, Montariol T. Cholecystocolonic fistula: facts and myths. A review of the 231 published cases. *J Hepatobiliary Pancreat Surg*. 2009;16(1):8-18. doi:10.1007/s00534-008-0014-1. Epub 2008 Dec 17. PMID: 19089311.
6. Lianos G, Xeropotamos N, Bali C, Baltoggiannis G, Ignatiadou E. Adult bowel intussusception: presentation, location, etiology, diagnosis and treatment. *G Chir*. 2013;34(9-10):280-283.
7. Munro R, Sorrell TC. Biliary sepsis. Reviewing treatment options. *Drugs*. 1986 May;31(5):449-54. doi:10.2165/00003495-198631050-00004. PMID: 3086069.

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