Stuck at the Ileocecal Valve: A Gallstone Ileus Story

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Introduction

Gallstone ileus accounts for 0.095% of causes of bowel obstruction.[1] Despite being rare, gallstone ileus is an additional differential for patients presenting with pain out of proportion on abdominal exam. Most data regarding gallstone ileus are from surgical or gastrointestinal specialties.

Case Description

Patient: 81-year-old female

PMH: Diverticulitis and abdominal hysterectomy

CC: Sudden periumbilical abdominal pain followed by two episodes of non-bloody, non-bilious vomiting

PE: Unremarkable physical, benign abdominal exam without tenderness to palpation.

Vitals: T 36.7° C, HR 76, BP 147/56, RR 19, Pox 97% on RA

Course: On arrival, her symptoms were completely resolved; however, she did endorse a few months of unexplained weakness and fatigue. The patient stated that she had an abdominal ultrasound scheduled to evaluate for cholelithiasis which was incidentally discovered on imaging a year before. Point-of-care lactate was normal, but she had an elevated white blood cell count of 19. Computed tomography (CT) results showed concern for gallbladder or duodenal neoplasm with the development of a cholecystoenteric fistula (CEF). A gallstone was noted in the distal small bowel and causing obstruction.

Differentials and Management

For a patient presenting with acute abdominal pain and a benign physical exam, differential diagnoses considered were:

- **Bowel obstruction**
- **Perforated viscus**
- **Mesenteric ischemia**

Antibiotics were started and the patient was taken emergently for exploratory laparotomy, enterostomy, and removal of impacted gallstone at the ileocecal valve. During esophagogastroduodenoscopy, biopsies were taken of an ulcerated and friable mass of the gallbladder that contained a large gallstone. Pathology results were notable for cholangiocarcinoma and the patient started palliative chemotherapy.

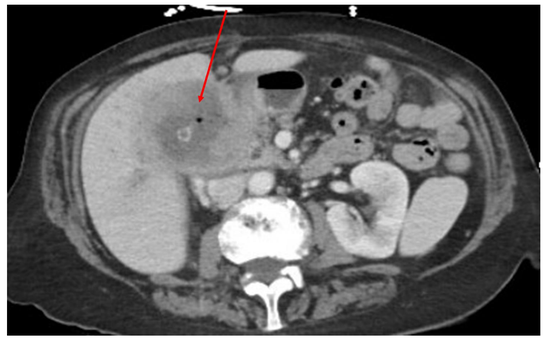


Figure 1 (CT abdomen/pelvis with contrast): Gallbladder neoplasm and CEF. Heterogeneously enhancing mass in the region of the porta hepatis with central rounded focus of calcification and multiple foci of gas.

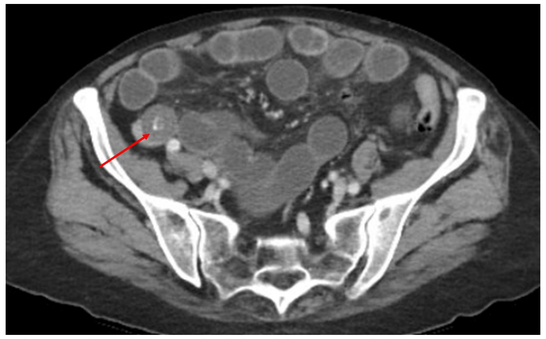


Figure 2 (CT abdomen/pelvis with contrast): Impacted gallstone and small bowel obstruction. Proximal duodenum demonstrates probable communication with a heterogeneously enhancing mass in the porta hepatis. Multiple mid to distal small bowel loops demonstrates mild distention with air-fluid levels, extending to a point of rounded centrally calcific density.

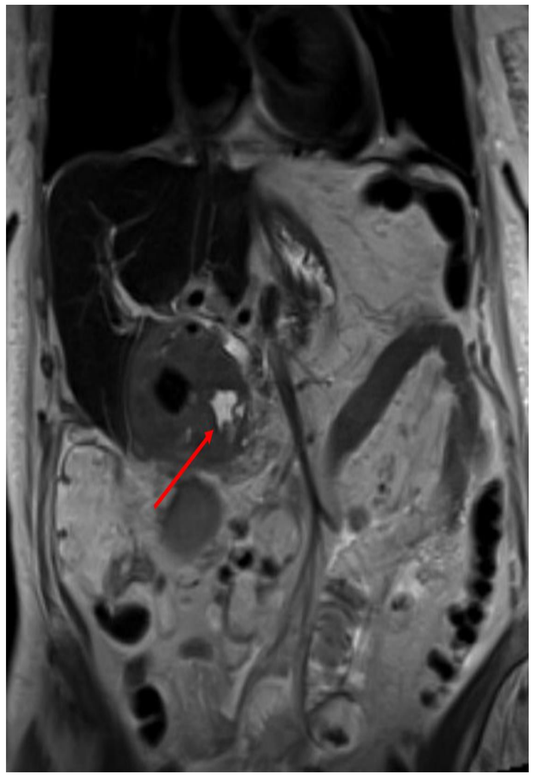


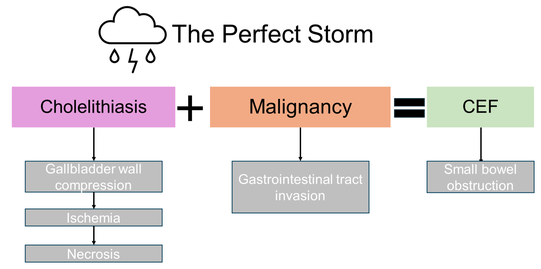
Figure 3 (Magnetic resonance imaging of abdomen): Gallbladder mass with gallstone. Gallbladder mass with internal calcification and invasion of proximal duodenum. Compression of proximal extrahepatic ducts.

References: (1) Halabi WJ, Kang CY, Ketana N, et al. Surgery for Gallstone Ileus. Annals of Surgery. 2014;259(2):329-335. doi: 10.1097/SLA.0b013e31827eefed **(2)** Wang CY, Chiu SH, Chang WC, et al. Cholecystoenteric fistula in a patient with advanced gallbladder cancer: A case report and review of literature. World J Clin Cases. 2023;11(36):8519-8526. doi: 10.12998/wjcc.v11.i36.8519. **(3)** Kohli DR, Anis M, Shah T. Cholecystoenteric Fistula Masquerading as a Bleeding Subepithelial Mass. ACG Case Rep J. 2017;125(4). doi: 10.14309/crj.2017.125 **(4)** Ojemolon PE, Kwei-Nsoro R, Haque M, et al. Different Approaches to the Management of Cholecystoenteric Fistula. ACG Case Reports Journal. 2023;10(1):e00960 doi: 10.14309/crj.0000000000000960 **(5)** Shelton J, McCall M, Strickland M. A216 When cancer casts the first stone: A case report of gallbladder cancer presenting as a gallstone ileus. J Can Assoc Gastroenterol. 2022;5(Suppl 1):104–6. doi: 10.1093/jcag/gwab049.215

Discussion

A gallstone ileus occurs due to passage of a gallstone through a CEF which is a connection between the gallbladder and gastrointestinal tract.[2] Overall, these fistulas are rare with only a reported incidence of 0.9%.[3] Causes of CEF include cholelithiasis, peptic ulcers, malignancy, inflammatory bowel disease, and diverticulitis. Of these etiologies, our patient had cholelithiasis and malignancy from cholangiocarcinoma.[4] There are few case reports of gallbladder cancer being associated with a CEF.[2,5]

As seen in our patient, symptoms can be nonspecific and due to a myriad of causes including cholelithiasis, neoplasm, and obstruction. Of note, patients usually have intermittent pain since the stone is moving and transiently causing obstruction. The patient's resolution of symptoms on arrival is suspicious to be secondary to the gallstone being sedentary at the ileocecal valve.



Conclusion

The nonspecific symptoms and physical exam findings of a gallstone ileus make the diagnosis a challenge. For a patient presenting with pain out of proportion on abdominal exam, gallstone ileus should be added to the EM providers repertoire of differentials especially since it is a surgical emergency.