Lower Gastrointestinal Bleeding from a Cystic Artery Pseudoaneurysm in the Setting of Cholecystocolonic Fistula and Gangrenous Cholecystitis

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Background

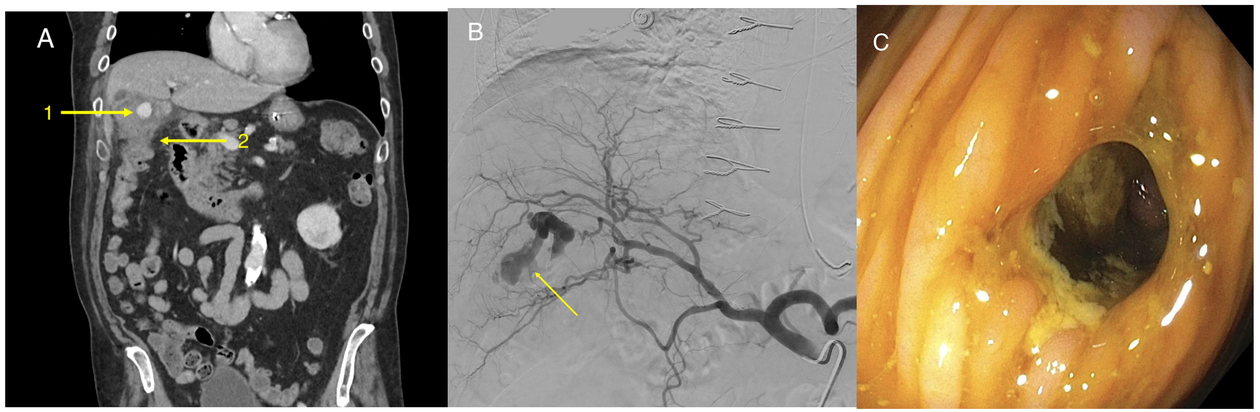
Cholecystocolonic fistula (CCF) is an uncommon complication of cholecystitis in which a tract forms between an inflamed gallbladder and the colon.

CCFs are usually asymptomatic and are discovered intraoperatively in <1% of cholecystectomies.[1-2]

Case Presentation

- 78-year-old male on dual antiplatelet therapy with history of hypertension, type II diabetes, coronary artery bypass, atrial fibrillation, and a 20 pack year smoking history
- Patient presented with a two-day history of worsening rectal bleeding, dyspnea, and weakness following a 6-hour episode of periumbilical pain.
- Admission blood pressure of 66/34 and hemoglobin of 6.2 g/dL.

Radiographic Imaging and Hospital Course



1. **Figure A:** contrast enhanced CT of the abdomen and pelvis revealing an inflamed gallbladder with a hematoma and a pseudoaneurysm (**arrow 1**), as well as a fistula from the gallbladder to the hepatic flexure (**arrow 2).**
2. **Figure B:** Mesenteric angiogram demonstrating a pseudoaneurysm of the cystic artery with active bleeding.
3. **Figure C:** Colonoscopy confirming an 8mm circular tract at the hepatic flexure. Upper endoscopy was normal.

The patient was diagnosed with gangrenous cholecystitis complicated by CCF. During his hospital stay, he underwent massive transfusion protocol and embolization of the cystic artery to control the hemorrhage. At discharge, he was no longer experiencing bloody stools and had a stable hemoglobin of 7-8 g/dL. He was scheduled for outpatient colonic resection and cholecystectomy.

Discussion

Gangrenous Cholecystitis

- Caused by tension on gallbladder wall coupled with vascular insufficiency, leading to ischemic necrosis
- Risk factors for vascular insufficiency and associated gangrenous cholecystitis include male sex, age > 50 years old, cardiovascular disease, and diabetes[3]

Cholecystocolonic Fistula (CCF)

- Most often found in the setting of biliary disease
- 85% between gallbladder and duodenum; 15% involve colon[4]
- Tracts may be formed secondary to:
  - stone impaction and subsequent pressure necrosis of the gallbladder lumen (uncomplicated cholecystitis)
  - gallbladder wall distension and ischemic necrosis (gangrenous cholecystitis)
- Treatment is laparoscopic cholecystectomy and fistula resection: similar success rates and decreased rates of postop complications and length of admission when compared to open procedures.[5]

Conclusions

In rare cases, gangrenous cholecystitis with CCF can present as brisk hematochezia. Physicians should consider this condition as a potential diagnosis in patients presenting with a massive lower GI bleed.

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