Cholecystocolonic fistula: a rare intraluminal cause of large bowel obstruction

Amit Kumar Reddy, Elizabeth R Dennett

DESCRIPTION
An 87-year-old man presented acutely to our institution with a clinical diagnosis of large bowel obstruction following treatment by his general practitioner for diarrhoea. His background was of conservative treatment of cholecystitis 3 years previously. A CT scan suggested a large bowel obstruction at the level of the sigmoid colon with an intraluminal opacity identified at that point. Air was present within the biliary system and a connection could be observed between the gallbladder and the hepatic flexure. A diagnosis of a cholecystocolonic fistula was made. The patient proceeded to laparotomy where a stercoral-type perforation was identified in the sigmoid colon due to the obstructing intraluminal object (figure 1). A densely thickened gallbladder was identified and a cholecystocolonic fistula was confirmed. A partial cholecystectomy was performed with a subtotal colectomy and formation of an end ileostomy.

Cholecystoenteric fistulae are an uncommon complication of gallstone disease. The most common type of fistula is between the gallbladder and duodenum; however, a cholecystocolonic fistula represents the second most common abnormal connection. The underlying pathophysiology is related to chronic inflammation due to gallstones; however, other mechanisms have been described including gallbladder malignancy, previous gastric surgery, previous cholecystostomy and penetrating abdominal wounds.

These fistulae are most commonly asymptomatic and are often identified incidentally during laparoscopic gallbladder surgery. When they do present with symptoms the most commonly described is diarrhoea. The diarrhoea experienced is related to malabsorption, with bile acids bypassing enterohepatic recirculation in the terminal ileum and having a laxative effect in the colon. Presentation may also be with large bowel obstruction. Most commonly the stone is obstructed in the sigmoid colon, these stones tend to be >2.5 cm in diameter with smaller stones presumed to pass through to colon.

Plain X-ray may suggest the diagnosis with pneumobilia and large bowel obstruction with an opacified gallstone seen in the colon. CT imaging was diagnostic in our case and is a useful investigation in these patients.

In treating an acute complication of a cholecystocolonic fistula several methods have been described including surgical and endoscopic options. Surgical treatment may be divided into management of the direct complication as well as the underlying cholecystocolonic fistula. Large bowel obstruction may be treated with enterolithotomy, formation of a colostomy or resection with anastomosis depending on the state of the colon. The management of the underlying cholecystocolonic fistula remains an area of debate. Case reports exist for successful cholecystectomy at the emergency operation, as an interval procedure, but some have

Learning points
- Cholecystocolonic fistula is a rare condition; the presentation may be vague but diarrhoea is the most common symptom.
- Gallstone impaction in the sigmoid colon may present initially with diarrhoea with large bowel obstruction.
- CT imaging is a useful investigation to diagnose preoperatively with diagnostic features of large bowel obstruction, an intraluminal mass and air within the biliary system.

Figure 1 Photograph of the resected sigmoid colon specimen with impacted gallstone and site of local perforation.
avoided cholecystectomy altogether.\textsuperscript{1} No consensus exists with regards to optimal treatment. The decision should be dictated by the condition of the patient and the experience of the surgeon.

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**REFERENCES**