A curious case of cololithiasis

L Creedon¹, H Boyd-Carson¹, J Lund^{1,2}

¹Department of General Surgery, Royal Derby Hospital, Derby, UK

²Academic Department of Surgery, University of Nottingham Medical School, Royal Derby Hospital, Derby, UK

ABSTRACT

Gallstone ileus is an uncommon cause of bowel obstruction that involves cholecystoenteric fistulation and resultant passage of gallstones into the bowel. In the vast majority of cases, the fistula forms between the gallbladder and duodenum leading to small bowel obstruction. We report a case of cholecystocolic fistulation and subsequent large-bowel obstruction in a 75-year-old woman who presented acutely after taking a bowel preparation for an outpatient colonoscopy during the course of an investigation of anaemia and nonspecific abdominal pain. Preintervention imaging revealed a giant gallstone at the rectosigmoid junction, in the presence of a cholecystocolic fistula, and subsequent large bowel obstruction. After a failed period of expectant management, laparotomy and Hartmann's procedure were performed and the patient made an uneventful recovery.

KEYWORDS

Emergency surgery – Laparotomy – Gallstones – Intestinal obstruction

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CORRESPONDENCE TO

Lee Creedon, E: lee.creedon@nhs.net

Case history

A 75-year-old woman was referred via her general practitioner to the colorectal outpatient clinic with nonspecific abdominal pain, intermittent episodes of vomiting and a mild normocytic anaemia (haemoglobin 96 g/l, mean corpuscular volume 85 fl). Examination was normal. An urgent colonoscopy was arranged. However, after taking the prescribed oral bowel preparation, the patient presented acutely to the emergency department with worsening abdominal pain, vomiting and absolute constipation. On examination, the abdomen was distended and tender in the left iliac fossa without peritonism. Blood tests were normal except for the anaemia already reported. Abdominal and chest plain films were taken, which identified dilated large and small bowel loops with no free air (Fig 1). Computed tomography (CT) of the abdomen revealed the cause of the obstruction to be a giant gallstone (10 × 5 × 6 cm) that had passed from the gallbladder via a fistula with the hepatic flexure (Fig 2), becoming impacted at the proximal sigmoid colon (Figs 3 and 4).

An initial expectant approach was taken and repeat CT was performed 24 hours later, to assess for further distal passage. However, this revealed that the gallstone had not moved and there was increased intra-abdominal free fluid and surrounding inflammatory change at the level of obstruction. Operative intervention was planned and at laparotomy the following day, the gallstone was found to be impacted within the proximal sigmoid colon, which meant that milking it backwards was not possible. There was

Figure 1 Plain abdominal radiograph demonstrating dilated large bowel

Figure 2 Computed tomography of the abdomen showing the cholecystocolic fistula

Figure 3 Computed tomography of the abdomen identifying a giant gallstone impacted in the proximal sigmoid colon

significant inflammatory change at the site of impaction so a simple enterotomy and closure was deemed unsafe. A Hartmann's procedure was therefore performed. The post-operative course was uneventful and the patient was discharged home on day 11. Of note, the colonoscopy performed prior to consideration of reversal of Hartmann's, at 68 weeks, confirmed spontaneous closure of the cholecystocolonic fistula.

Figure 4 Reconstructed computed tomography of the abdomen demonstrating a giant pelvic gallstone

Discussion

Gallstone ileus is a rare cause of mechanical bowel obstruction, accounting for between 1% and 4% of presentations.¹ It usually presents as small bowel obstruction, with the gallstone impacting in the narrower terminal ileum having passed from the gallbladder through a cholecystoduodenal or enteric fistula. The classic 'Rigler's triad' on abdominal radiograph of pneumobilia, small-bowel obstruction and an opacity in the right iliac fossa is described but rarely present. Obstruction of the large bowel after a gallstone has passed via a cholecystocolonic fistula is extremely rare. Previous reports mostly identify the site of obstruction is at the start of a diverticular stricture too narrow to allow the passage of the stone. There has been no previous report of a gallstone so large that it was unable to negotiate an otherwise normal calibre colon.

Presentation of gallstone ileus of the large-bowel, gallstone colesus, is often with vague symptoms and is mostly seen in an older, comorbid population. Preintervention diagnosis is therefore important and diagnostic imaging

should be performed in all patients presenting with large bowel obstruction.

A number of different treatments have been attempted, including endoscopic retrieval with or without endoscopic lithotripsy,² trephine loop colostomy, laparotomy and enterotomy with primary closure (both open and laparoscopic) and Hartmann's procedure. Local expertise may dictate which treatment options are available as well as the patient's comorbidity and the composition, size and location of the stone. Closure of the cholecystocolic fistula during the same procedure is associated with longer operating times and subsequent higher rates of mortality (16.9%) and morbidity than a simple enterolithotomy (11.7%).⁵ A review of the literature surrounding operative intervention for the cholecystocolic fistula during the primary procedure concluded that there is no definitive answer and a case by case approach is the most appropriate stance to take.⁴ Given that the population of patients most commonly affected are elderly and comorbid, in most instances no

further action for the fistula is required and primary closure should not be attempted.

Conclusion

Gallstone coelus is a very rare cause of large bowel obstruction but can occur even in an otherwise normal colon.

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