Causes of increased thickness of the gallbladder wall
<ul style="list-style-type: none">• intrinsic gallbladder disease• acute or chronic cholecystitis• contracted gallbladder after eating• acute hepatitis• ascites• hypoalbuminaemia• congestive cardiac failure• portal hypertension• chronic liver disease• multiple myeloma and acute myeloid leukaemia• pyelonephritis• infectious mononucleosis

Box 1

Summary points
<ul style="list-style-type: none">• the normal gallbladder wall thickness should be 3 mm or less on ultrasound examination• in our two cases, and in one of the cases reported in the literature, the presence of gallbladder wall thickening was associated with severe systemic illness in patients with infectious mononucleosis

Box 2

hypertension, hypoalbuminaemia is the dominant factor causing gallbladder wall thickening. This may have an anatomical basis, since the venous drainage of the gallbladder is via the right portal vein.¹ Indeed demonstrations of gallbladder wall thickening in chronic liver disease should suggest the presence of portal hypertension.⁵

In both our cases, the gallbladder wall was diffusely thickened, measuring up to 8 mm. This marked thickening was similar to that found in the other reported cases.^{7,8} The thickening of the gallbladder wall in infectious

mononucleosis may be due to an immunological reaction similar to that which occurs in the liver, or perhaps due to oedema of the wall secondary to lymphatic obstruction due to enlarged nodes at the porta hepatis. Incomplete gallbladder distension from reduced bile flow secondary to hepatic dysfunction may also contribute.⁷

Both patients were extremely ill. We suggest that when gallbladder wall thickening is seen with infectious mononucleosis, it is usually associated with severe systemic illness, warranting close monitoring.

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Gallstone ileus - beware the silent second stone

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Summary
Gallstone ileus remains a rare but important cause of small bowel obstruction. We report a case of recurrent gallstone ileus, presumably caused by an unidentified second stone resident within the gallbladder at the time of the initial laparotomy. This raises important questions about the traditional surgical management of this interesting condition.

Keywords: gallstone ileus, recurrent stones

The incidence of gallstone ileus increases with age. In elderly patients it is often misdiagnosed

and surgical treatment is associated with significant morbidity and mortality. Rarer still is the condition of recurrent gallstone ileus. This report highlights the various treatment options available to the surgeon.

Case report

A 63-year-old woman presented with a four week history of intermittent abdominal pain, vomiting and diarrhoea. Plain abdominal radiographs demonstrated proximal small bowel obstruction with air in the biliary tree. The clinical diagnosis of gallstone ileus was confirmed at laparotomy where a 4.5 cm non-faceted gallstone (figure) was found impacted

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60 cm distal to the duodenojejunal flexure. It was removed via a proximal enterotomy. An indurated inflammatory mass in the right upper quadrant was not disturbed, careful laparotomy was otherwise normal. Recovery was uncomplicated with discharge on the ninth postoperative day.

Two weeks following discharge she again developed obstructive symptoms. A trial of conservative management was unsuccessful and at laparotomy a second, faceted gallstone (figure) was identified in the jejunum 20 cm distal to the previous enterotomy. It was removed with a limited small bowel resection.

Discussion

Gallstone ileus is not uncommon, accounting for 1–3% of all cases of mechanical small bowel obstruction. The incidence increases to 23–25% in patients over 65 years of age.¹ Multiple stones are rare, with few cases reported. In most of these, the second stone is not identified at initial laparotomy, as it is presumably located within the gallbladder.

It is generally advocated that the primary management of gallstone ileus should be directed at the obstructing stone and the cholecystoduodenal fistula be left undisturbed, rather than risk increasing the already substantial postoperative mortality of 10–25%.^{2,3} In following this principle we missed the ‘silent second stone’ with unfortunate consequences.

The prevalence of second or multiple stones may be as high as 5%⁴ and this possibility should not be overlooked in treating gallstone ileus. If confirmed, definitive treatment of the second stone should be considered. This would involve cholecystectomy and fistula repair. Some centres^{2,5} have reported acceptable morbidity and mortality with this approach.

In those cases of gallstone ileus where a pre-operative diagnosis can be made with con-

Learning points

- gallstone ileus accounts for a significant proportion of geriatric patients presenting with small bowel obstruction
- the prevalence of second or multiple stones may be as high as 5%
- pre-operative ultrasound should be performed in all cases presenting with gallstone ileus, as the planned operative procedure may need to be modified to include cholecystectomy if appropriate

Figure Photograph of gallstones removed. On the left a non-faceted stone removed at first laparotomy and on the right a uni-faceted stone removed at second laparotomy

fidence (approximately 60% of cases) we feel that a pre-operative ultrasound scan should be performed to exclude a second ‘silent stone’ in the gallbladder, particularly where an operative strategy of enterolithotomy alone is planned. Where a silent stone is identified in the gallbladder the surgeon must decide whether to proceed with cholecystectomy and treatment of the cholecystoduodenal fistula in addition to enterolithotomy.

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