A chip off the old block—A case report of gallstone ileus in which identification of a facetted stone was essential in preventing re-laparotomy

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ABSTRACT

Gallstone ileus is a rare presentation, accounting for 0.1% of cases of mechanical small bowel obstruction. Treatment is based upon laparotomy and enterolithotomy. We present the case of a 75 year old lady admitted as an emergency with a 4 day history of small bowel obstruction. She was found on CT scan to have an impacted gallstone in the distal ileum. At operation, her impacted stone was removed through a proximal enterostomy. The stone however was found to have a squared off edge, raising the suspicion of a second fragment within the proximal small bowel lumen. Failure to retrieve this could have led to re-obstruction requiring a return to theatre and repeat laparotomy in an elderly patient with the associated morbidity.

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1. Introduction

Gallstone ileus is an impaction of a gallstone within the gastrointestinal tract causing mechanical bowel obstruction. It results from a biliary-enteric fistula, and is a relatively rare presentation accounting for only 0.1% of mechanical bowel obstructions [1]. The treatment of gallstone ileus is laparotomy and enterolithotomy with retrieval of the obstructing stone. A concurrent or interval repair of the biliary-enteric fistula and cholecystectomy may be performed if appropriate.

At laparotomy multiple smaller gallstones may remain in the gallbladder and occasionally one may be found proximal to a larger obstructing stone [2]. The recurrence rate of gallstone ileus has been reported as 8.2% [3]. Of those cases requiring surgery there is a significant mortality rate of up to 20% [4]. Case reports have previously been published highlighting complications of retained proximal luminal stones, and the need for systematic examination of the bowel at laparotomy [5,6]. In one example a patient had an obstructing faceted stone removed, and represented with small bowel obstruction caused by the retained fragment requiring re-operation [6].

We present the case of a previously well 75-year-old female patient who presented with a one week history of colicky central abdominal pain, vomiting and three days of absolute constipation. On examination her abdomen was soft, mildly distended and was generally tender. A plain abdominal x-ray demonstrated dilated

Fig. 1. Dilated proximal small bowel, and obstructing gallstone milked back towards proximal enterostomy.

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loops of small bowel in keeping with obstruction but no air in the biliary tree. In accordance with the Bolgna Guidelines for the treatment of adhesive small bowel obstruction we progress (following unsuccessful conservative resolution of SBO with the passage of an NG tube and i.v. fluids for 48 h) to a contrast-enhanced CT scan which demonstrated small bowel obstruction attributable to an impacted gallstone. Chronic cholecystitis, cholelithiasis, and a cholecysto-duodenal fistula were also seen.

The patient was taken to theatre where a midline laparotomy was performed. The small bowel was found to be grossly dilated down to a transition point in the ileum, plugged by the obstructing gallstone. A proximal enterostomy was made (Fig. 1), and the gallstone milked back and removed. Upon extraction it was found to have a squared off side (Fig. 2) raising the suspicion of a retained proximal intraluminal fragment. This corresponding piece of the original stone was identified proximal to the enterostomy, and was removed (Fig. 3).

She had an uneventful post operative recovery. As previously noted, there is a significant recurrence rate seen in gallstone ileus, and case reports of complications resulting from retained stones, including a facetted stone, have been published. This case demonstrates that the finding of a squared off gallstone indicates the presence of a remaining piece of gallstone within the bowel lumen until proven otherwise. This provides a visual prompt to the surgeon to meticulously examine the small bowel for the retained fragment. As there is a significant mortality rate associated with re-laparotomy in patients with recurrent gallstone ileus, best practice should be to examine the entire small bowel thoroughly for further gallstones in all cases.

This case report has been reported in line with the scare criteria [7]. Informed consent was gained from the patient prior to publication. There are no conflicts of interest associated with any of the authors in relation to this case report. There was no funding of this report.
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Author contribution
James O’Kelly + Paul Beggs write up of case report.
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