

## ESCP Interesting Cases – Online template

Maximum words 1000

Up to 3 images (with descriptions)

<b>TITLE OF CASE</b> - <i>make it interesting and catchy</i>
Between A Rock And A Hard Place - Nathaniel Roocroft
<b>CLINICAL SUMMARY</b> <i>Up to 150 words summarising the case and outcome – for index page</i>
<p>Gallstone ileus is a rare complication of cholelithiasis. It has a high mortality, as a result of delayed, non-specific presentations in a generally elderly population, who often have multiple co-morbidities(1).</p> <p>In this case, an 87-year old male patient was admitted with symptoms of small bowel obstruction. Imaging revealed the cause of this as a large gallstone impacting in the ileum. Due to very significant medical co-morbidities he was deemed un-anaesthetisable, and a laparotomy could not be undertaken.</p> <p>The patient was managed conservatively, and over the following days his symptoms began to resolve. The stone passed spontaneously per rectum two weeks later. There are very few case reports of spontaneous resolution of gallstone ileus, with none with a stone as large as that passed in this case.</p> <p>An 87 year old male patient presented to hospital with a history of colicky abdominal pain and not opening his bowels for 4 days. He described worsening vomiting and on examination his abdomen was significantly distended and tense.</p> <p>The patient had known significant cardiac and respiratory disease, including ischaemic heart disease, hypertension, atrial fibrillation, mitral regurgitation, and most importantly right heart failure secondary to pulmonary hypertension.</p>
<b>INVESTIGATIONS</b> <i>If relevant</i>
<p>On arrival he underwent abdominal radiograph (Fig.1). This showed dilated loops of small bowel, and no gas in the rectum. Although not recognised at the time, in retrospect this initial X-ray also showed pneumobilia and a radio-opaque gallstone which, together with the small bowel obstruction forms Rigler’s triad; itself pathognomonic radiological markers of Gallstone Ileus (2).</p>



Fig 1 – X-ray taken on admission to the Emergency Department.

This was followed up with a CT abdomen (Fig. 2) which showed a calcified stone in the lumen of the distal ileum, consistent with gallstone ileus. The bowel was dilated up to the stone.

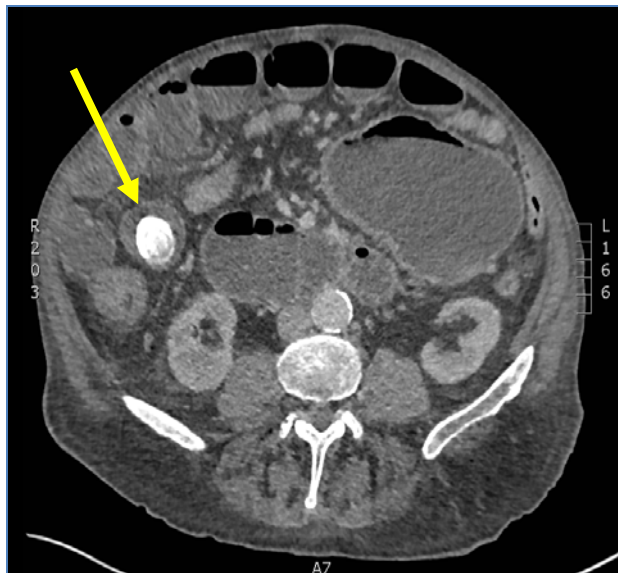


Fig 2 – CT Abdomen demonstrating gallstone.

**DIFFERENTIAL DIAGNOSIS** *If relevant*

The X-ray and CT imaging quickly allowed the gallstone ileus to be recognised as the cause of the obstruction.

### **TREATMENT *If relevant***

Gallstone Ileus is a surgical emergency (3), especially when a large stone completely obstructs the lumen of the bowel, as with this patient. The surgical team made a decision to undertake laparotomy the following morning, pending anaesthetic review. However, due to the patient's significant co-morbidities, the anaesthetic team felt a general anaesthetic was not possible. The pulmonary systolic pressures were only around 10mmHg less than systemic values; it was felt that any attempt at induction would result in likely reversal of flow and immediate death. Regional or spinal blockade were also felt to be impossible for the same reasons. Local anaesthetic laparotomy was postulated but felt to be impossible.

With this in mind, conservative treatment was instigated with an NG tube and iv fluids. Over the course of the next 24-48 hours the vomiting and abdominal distension appeared to diminish. Two days later, he opened his bowels on four occasions, and his abdomen, whilst still tender, was soft again. His symptoms continued to resolve over the subsequent few days. For a further few days he experienced explosive liquid diarrhoea. Further abdominal x-ray demonstrated that the gallstone had spontaneously passed through the ileocaecal joint into the patient's large intestine, and the small bowel obstruction had resolved.

### **OUTCOME AND FOLLOW-UP**

Following this, the patient became cardiovascularly unstable due to worsening heart failure as a result of the fluid shift from the oedematous bowel into his vasculature on resolution of his obstruction.

This extended the patients hospital stay by an extra two weeks, by which time the gallstone had migrated through the remainder of the colon, and was passed spontaneously per rectum, as seen in Figure 3.



Fig 3. Gallstone; 5.6 x 3.8cm

The patient was discharged to a rehabilitation facility a few days later.

**DISCUSSION** *Include a very brief review of similar published cases. What is different / interesting about this case*

Gallstone Ileus is an uncommon complication of gallstones, causing 1-4 % of mechanical SBO. It is usually associated with an internal biliary fistula as 90% of obstructing stones are >2cm , making them too large to pass through the common bile duct (3).

Fistulas mainly form following an episode of cholecystitis where there has been pericholecystic inflammation resulting in adhesions formed between the biliary and enteric systems; with local ischaemia leading to perforation(3).

Whilst spontaneous passage can occur in smaller stones, there are only a handful of reports of spontaneous passage of stones larger than 5mm, as above this size they are not supposed to be able to fit through the ileocaecal valve.

Surgery is the mainstay of treatment; with enterolithotomy the procedure of choice, followed by possible fistula closure as a second procedure in patients deemed fit enough. There is a high mortality associated with the operation of around 15% (4).

There are only a handful of cases of spontaneous passage in the literature:

- Roberts and Lambrianides (3) described a 66 year old female patient who refused surgery and the >2cm stone passed spontaneously.
- Mishin, Ghidirim and Zastavitsky (5) described an 81 year old with significant comorbidities who passed a stone under 2.5 cm
- Tandon et al. (6) describe a 60 year old woman with co-morbidities preventing operation in which a 4x 3.8cm stone passed spontaneously.
- Bajracharya et al. (1) described a 67-year old female patient passing a 6x4cm gallstone spontaneously.

**LEARNING POINTS/TAKE HOME MESSAGES** *3 to 5 bullet points - important*

1. Gallstone Ileus is an uncommon complication of gallstones, and accounts for 1-4% of mechanical small bowel obstructions.
2. Following a clinical diagnosis of bowel obstruction, the gallstone ileus can be diagnosed solely on X-ray, but more often confirmed with CT imaging.
3. Management is usually surgical, via a laparotomy and enterolithotomy.
4. This case shows that when the anaesthetic risks are too great to operate, conservative management can be successful, even with a very large gallstone.

## References

1. Bajradharya A et al.. A case of colonic gallstone ileus with a spontaneous evacuation. *Health Renaissance*, Jan-April 2011; Vol 9 (No.1); 47-49.
2. Lassandro F, Gagliardi N, Scuderi M et al.: Gallstone ileus analysis off radiological findings in 27 patients. *Eur J Radiol* 2004; 50: 23-29.
3. Roberts JA, Lambrianides AL. Spontaneous resolution of a gallstone ileus. *JSCR* 2012 3:3
4. Vasilescu et al. Gallstone ileus: A rare cause of intestinal obstruction – case report and literature review. *Chirurgia* Sept-Oct 108:741-744
5. Mishin I, Ghidirim G, Zastavitsky. Non-operative treatment for gallstone ileus- a case report. *Przegląd Chirurgiczny* 2011, 83, 4, 223-226.
6. Tandon et al. Resolution of Gallstone Ileus with Spontaneous Evacuation of Gallstone; a case report. *Indian Journal of Surgery* Jun 2013.