Complete Radiological Findings in Gallstone Ileus

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A 79 year old female caucasian patient with a background history of type II diabetes mellitus, hypertension and hypercholesterolaemia, presented with a 1 day history of bilateral flank and lower abdominal pain and a few episodes of vomiting. Of note, there was no history of constipation or obstipation. Clinical exam on presentation showed no localizing abdominal signs. The patient was also found to be dehydrated and hyperglycaemic.

A plain radiograph of the abdomen was performed (Fig. 1A).

This demonstrated the 'Rigler Triad' of dilated small bowel loops in the left upper quadrant (arrow), linear lucencies in the right upper quadrant, corresponding to the anatomic location of the liver, suggesting pneumobilia (arrowhead) as well as a partly calcified ovoid density in the left lower quadrant (curved arrow). If these are present, it is considered to be sufficient for diagnosis in the correct clinical scenario.¹⁻³ Esophago-gastro-duodenoscopy was then performed which suggested the presence of a fistula

Figure 1. Abdominal radiograph and barium meal. (A) Abdominal radiograph demonstrating the 'Rigler Triad' of dilated small bowel loops in the left upper quadrant (arrow), linear lucencies in the right upper quadrant, corresponding to the anatomic location of the liver, suggesting pneumobilia (arrowhead) as well as a partly calcified ovoid density in the left lower quadrant (curved arrow). (B) Spot image from a barium meal examination demonstrating abnormal early filling of the gallbladder (curved arrow) from a fistulous tract originating at the junction of the first and second parts of the duodenum.

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Figure 2. Contrast enhanced CT of the abdomen and pelvis demonstrating acute small intestinal obstruction (blue arrowhead) secondary to an intraluminal obstructing gallstone (blue arrow) in the proximal ileum.

originating from the first/second part of the duodenum and a barium meal was subsequently performed to further confirm the findings of endoscopy and to delineate the anatomy of the fistula (Fig. 1B). A fistulous tract was demonstrated between the junction of the first and second parts of duodenum and the gallbladder neck, with subsequent filling of barium into the proximal common bile duct from the cystic duct as well as the gallbladder body.

CT of the abdomen and pelvis was subsequently performed which demonstrated an acute small bowel obstruction (blue arrowhead) secondary to an intraluminal obstructing gallstone (blue arrow) in the proximal ileum (Fig. 2).

The transition point was located in the left hemipelvis, in a lo-

Figure 3. Photograph taken at the laparotomy and enterolithotomy demonstrating the large obstructing gallstone impacted in the distal ileum.

cation corresponding to the calcified density seen previously on plain radiography. A diagnosis of gallstone ileus was made and the patient was referred to the gastro-intestinal surgeons. The diagnosis was confirmed at laparotomy and an enterolithotomy was performed (Fig. 3).

References

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