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SMALL BOWEL OBSTRUCTION DUE TO BEZOAR IN JEJUNAL DIVERTICULOSIS

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Background: An 87-year-old man was admitted urgently with abdominal pain, distension and absolute constipation for 48 hours. A plain abdominal radiograph confirmed small bowel obstruction and blood tests revealed a raised CRP (7 mg/ml) with normal hematology, renal function, liver function and LDH.

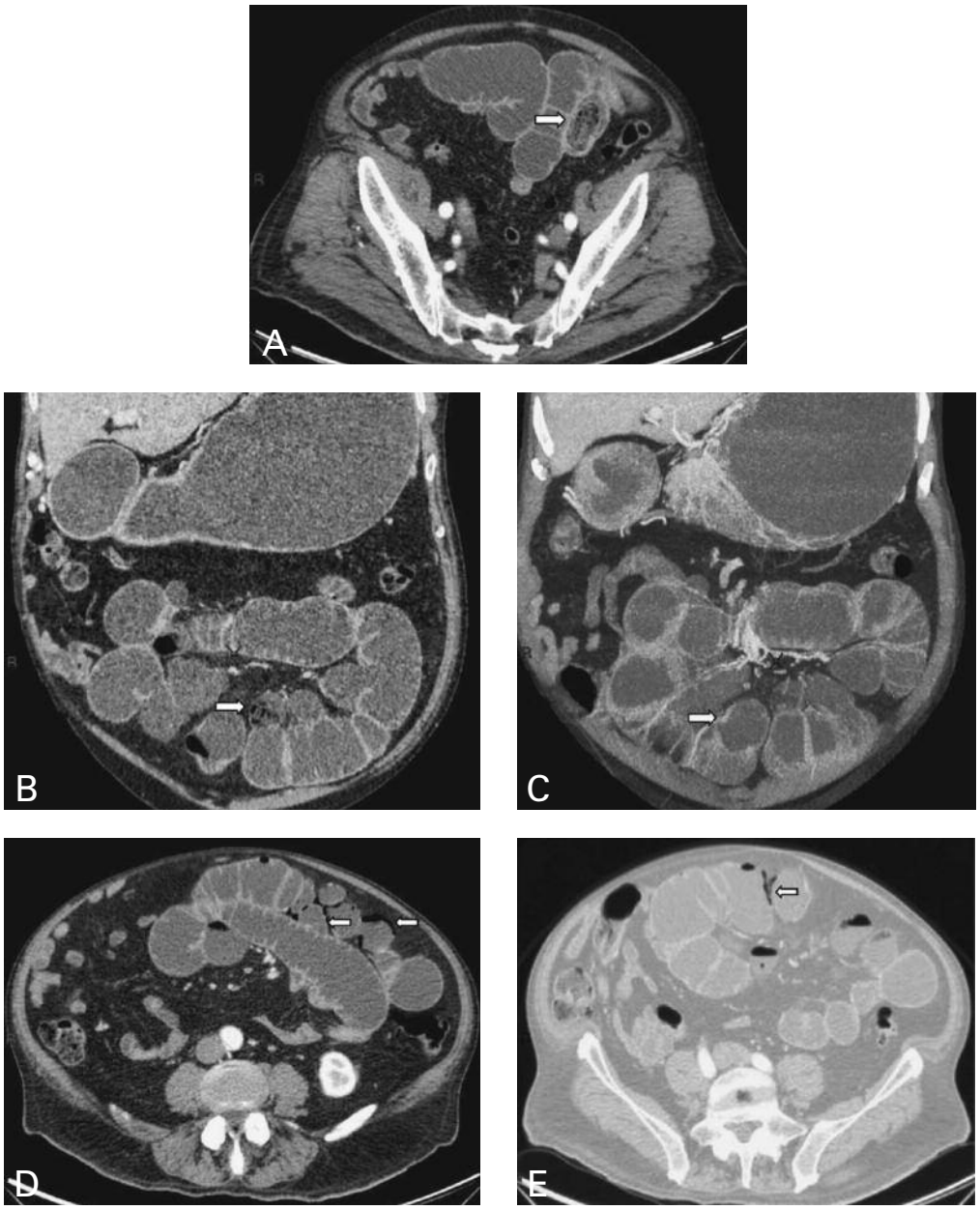

Fig. 1A | 1B | 1C | 1D | 1E

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Work-up

Contrast-enhanced CT scan of the abdomen (Fig. 1) includes a transverse section at the level of the iliac fossae (A) which shows dilated, fluid-filled bowel loops. The point of occlusion in the left iliac fossa is shown. Hypodense non-vascularised intraluminal mass lesion, immediately proximal to the site of bowel size change (arrow). Reformatted image in the coronal plane (MPR-image) (B) demonstrates diverticulae at the mesenteric border of the jejunum. One of these diverticula contains a non-vascularized intra-luminal mass (arrow). Reformatted image in the coronal plane (MPR-image) (C) demonstrates diverticulae at the mesenteric border of the jejunum (arrow). Transverse section at mid-abdominal level (D) shows signs of intestinal obstruction. Gas bubbles are seen in the intestinal wall (arrows). On transverse section at mid-abdominal level (pulmonary window setting) (E), bubbles of gas are noted within the bowel wall and outlining the diverticula. There is no evidence for free peritoneal fluid, nor gas within the superior mesenteric or portal veins (the latter not shown).

Radiological diagnosis

Based on the radiological findings, the diagnosis of acute mechanical obstruction secondary to migration of bezoar originating within a large jejunal diverticulum, associated with radiological signs of localized pneumatosis and localized perforation was made. At laparotomy, a mid-jejunal 4 cm bezoar, causing obstruction, was removed by enterotomy. There were no signs of intestinal perforation or ischemia. No bowel resection was required. The subsequent post-operative recovery was uneventful. The final diagnosis was *pseudoperforation related to jejunal diverticulosis complicated by small bowel obstruction due to bezoar*.

Discussion

Jejunal diverticulosis is estimated to occur in 0.02-7.1% of the population and is more frequent in the elderly. It is 7 times more common than ileal diverticulae and associated with diverticulae of the sigmoid colon and duodenum. The cause is unclear, but like in colonic diverticulae, jejunal diverticulae are found at the point of entry of jejunal vessels on the mesenteric border.

Sixty percent of patients are asymptomatic. In 30% ill-defined symptoms of dyspepsia, flatulence or abdominal pain are described. In 10% of cases complications requiring surgical intervention occur. These include hemorrhage, perforation, occlusion (bezoars and stricture), inflammation and bacterial overgrowth.

Pneumoperitoneum without perforation, as presented, has been described, and is attributed to the thin wall of the diverticulae functioning as a semipermeable membrane. The finding of encysted gas in the wall of the jejunum due to subserosal dissection has also been described. In our case the presence of gas outside the intestinal wall was interpreted as suspected for intestinal ischemia and localised perforation.

Intestinal occlusion secondary to migration of an intra-diverticular bezoar is an uncommon complication.

Up to now only 39 cases have been reported. If possible, the bezoar may be fragmented and pushed into the caecum for subsequent evacuation. Otherwise enterotomy is required. In the absence of perforation there is no indication to excise the diverticular segment of jejunum.

CT scan is helpful for the identification of bezoar, by showing an intraluminal gas containing mass in cases of phytobezoar.

The presented case illustrates jejunal diverticulosis uncommonly presenting with complications, i.e. obstruction due to impacted bezoar. The radiological finding of intraparietal extra-intestinal gas was in this case 'benign', and could be misinterpreted as pneumoperitoneum by bowel perforation. Features that suggest the harmlessness are localization of gas within the wall of diverticulae and absence of gas in the mesenteric or portal veins, in addition to correlation with the clinical context.

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