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CASE REPORT

The ileosigmoid knot

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Abstract Ileosigmoid knot is rare yet life-threatening condition caused by acute double loop intestinal obstruction. Preoperative diagnosis is difficult and it is associated with high morbidity and mortality. We present one such patient we encountered and outline our management, and discuss the surgical options available.

Keywords Ileosigmoid knot · Compound volvulus · Intestinal obstruction

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Introduction

Ileosigmoid knot is a rare surgical condition where patients present with acute intestinal obstruction. This condition is also known as compound volvulus because small bowel loops wrap around the base of the sigmoid colon, obstructing it. In severe cases it may lead to gangrene of both the small bowel and sigmoid colon. Preoperative diagnosis of this condition is difficult because of its rarity and atypical radiographic findings [1]. We present one such patient we encountered and outline our management.

Case report

A previously fit and well 60-year-old male presented with history of constipation for 2 days and acute abdominal pain for 1 day. There was no associated fever, vomiting or abdominal distension. He had no comorbidities and had not undergone any surgeries in the past. On examination he was afebrile, dehydrated and tachycardic. Abdominal examination revealed frank signs of peritonitis. Digital rectal examination was normal.

Investigations revealed an Hb of 9 g/dl and a white cell of 9,000/mm^3. His renal functions and serum amylase were within normal limits. X-rays of the abdomen showed multiple air fluid levels. There were dilated small bowel loops along with dilated colonic loops which also contained faecal matter [Fig. 1].

Taking into account his clinical signs and X-ray appearances, a working diagnosis of intestinal obstruction with possible strangulation and peritonitis was made. After adequate resuscitation, an exploratory laparotomy was performed. The peritoneal cavity contained about a litre of foul smelling dark fluid. The terminal ileum had encircled the base of the sigmoid colon, strangulating it.

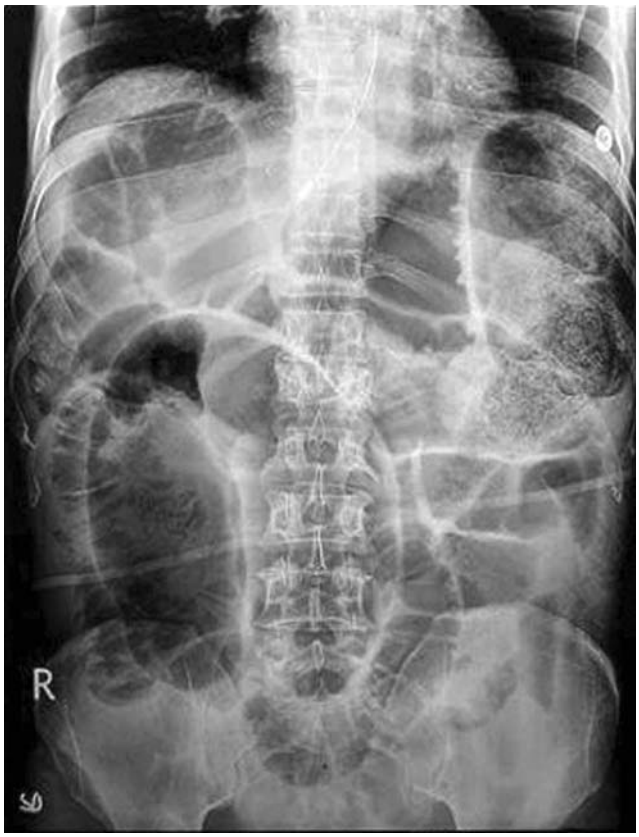

Fig. 1 Plain X-ray of the abdomen

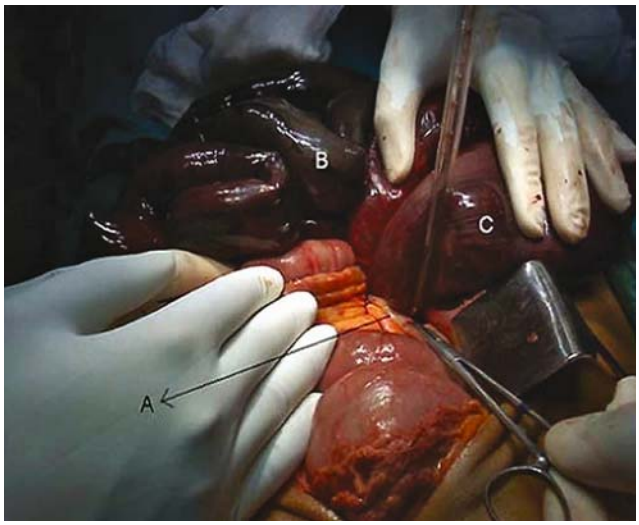

Fig. 2 Findings at laparotomy
A = Ileal knot, B = Gangrenous small bowel, C = Gangrenous sigmoid colon

The mesentery of the ileum was also twisted around along with the ileum resulting in gangrene of the distal 2 feet of ileum up to the ileocaecal junction [Figs. 2, 3]. The sigmoid colon was gently untwisted and the ileal knot opened. The non-viable distal ileum up to the caecum and sigmoid colon were resected. Jejunocolic (ascending colon) anastomosis and Hartmann's procedure (end colostomy and blind distal loop) were performed. The patient had an uneventful recovery in the postoperative period and was discharged on the 9th postoperative day.

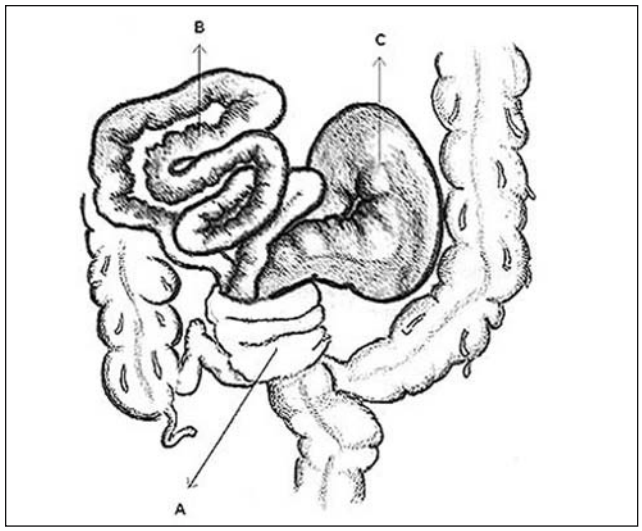

Fig. 3 Diagrammatic representation of findings
A = Ileal Knot, B = Gangrenous small bowel, C = Gangrenous sigmoid colon

Discussion

Ileosigmoid knot also known as compound volvulus or double volvulus is a rare surgical emergency characterised by double loop obstruction of the small bowel and sigmoid colon. This condition was first described by Riverius in the 16th century [2]. There appears a predilection to occur in the developing countries and lower socioeconomic strata. It is relatively common in certain parts of Asia and Africa, and dietary and environmental factors may play a role in its initiation. It is more common in the middle aged adult and very few cases have been reported in children [3].

Most patients present with clinical features of small and large bowel observation. Preoperative diagnosis is difficult because of lack of specific clinical or radiological features, making the diagnosis evident only on laparotomy. The ileum, which is the active part in this condition, wraps around the passive sigmoid causing double loop obstruction leading onto gangrene of either or both bowel. The duration of illness and severity are inversely related [4] and the outcome may depend on the time of presentation and intervention.

Resection of the gangrenous bowel, restoration of small bowel continuity and Hartmann's procedure is adequate [5] as most patients present in shock and may have contamination of the peritoneal cavity, as was the case in our patient. Primary anastomosis of the large bowel has also been performed [6] and is acceptable in a stable patient with

no gross contamination. In rare cases where there was no gangrene of the sigmoid, detorsion and sigmoidopexy has also been described [7].

Conclusion

The ileosigmoid knot is a rare but life- threatening condition, because the condition is mostly evident only at laparotomy it is prudent for the present day surgeon to be aware of this condition and the surgical options available.

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