Ileosigmoid Knotting- A Case for Primary Anastomosis

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ABSTRACT

Background: *Resection of gangrenous/non-viable bowel followed by primary anastomoses is known to be a viable option for treatment of ileosigmoid knotting. We here report a case of ileosigmoid knot and examined the options for treatment.*

Method: *A case report of a patient with ileosigmoid knotting and discussion of relevant literature for surgical treatment.*

Result: *A 26 year old man presented to the accident and emergency unit with two weeks' history of fever and alternating diarrhea and constipation followed by features of intestinal obstruction and later, generalized peritonitis. Plain abdominal X-rays showed dilated loops of bowel and multiple air-fluid levels. The diagnosis of ileosigmoid knotting was missed preoperatively. At exploratory laparotomy, ileosigmoid knot was encountered with non-viable segments of the sigmoid colon and ileum. Resection of the non-viable bowel was carried out with primary anastomoses with good postoperative outcome.*

Conclusion: *Primary anastomoses after resection of gangrenous bowel is a safe surgical treatment option in ileosigmoid knotting.*

KEYWORDS: *Ileosigmoid knotting, gangrenous bowel, resection and primary anastomoses.*

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INTRODUCTION

Ileosigmoid knotting or compound volvulus is an uncommon cause of intestinal obstruction comprising of twisting of the ileum around the base of a narrow sigmoid colon. Management of patients with ileosigmoid knotting is a challenge to the surgical team because of the profound fluid and electrolyte derangement that usually accompanies this condition leading to a high morbidity and mortality.[1] A high recurrence rate accompanies non-operative treatment.[2]

The features of this uncommon cause of intestinal obstruction are highlighted, with emphasis on resection and primary intestinal anastomoses in order to achieve good outcome.

CASE REPORT

A 26-year-old previously healthy male presented at the Accident and Emergency Department of the Jos University Teaching Hospital (JUTH), Jos, Nigeria with a two-week history of high grade intermittent fever, alternating diarrhea and constipation, headache and generalized body aches and pain. Two days prior to presentation, he developed a sudden colicky lower abdominal pain that later became generalized with abdominal distension and constipation. The pain was associated with non-projectile vomiting of recently ingested food particles. He had early resuscitation with fluid and electrolytes at a peripheral hospital before presentation at JUTH. He was found to be mildly dehydrated, but without fever or palor. The abdomen was distended with rebound tenderness and signs of peritonitis. The pulse rate was 110beats/min. and the blood pressure was 110/70mmHg (supine). A preliminary diagnosis of peritonitis secondary to typhoid enteritis was made.

The packed cell volume was 53%, the chest X-ray was normal, and there was no air seen under the diaphragm. His plain abdominal X-rays showed dilated loops of bowel and multiple air-fluid levels. Serum electrolytes and urea were within normal limits.

Intraoperative findings included: approximately 500ml of fowl-smelling, dark peritoneal fluid. The ileum was found to be hypermobile with a markedly elongated mesentery. About 175cm of the distal ileum encircled a loop of the sigmoid colon, which was twisted about 270 degrees in a clockwise direction at its base (FIGURE 1). Both the sigmoid colon and ileum were non-viable. The sigmoid colon had a long mesentery with a narrow base. A right hemicolectomy and sigmoidectomy were carried-out. Intestinal continuity was restored with jejuno-colic and colo-colic anastomoses respectively. He was admitted into the Intensive Care Unit and two pints of blood were transfused. He was started on oral fluids on the 5th post-operative day and was discharged on the 10th postoperative day. The postoperative course was uneventful.

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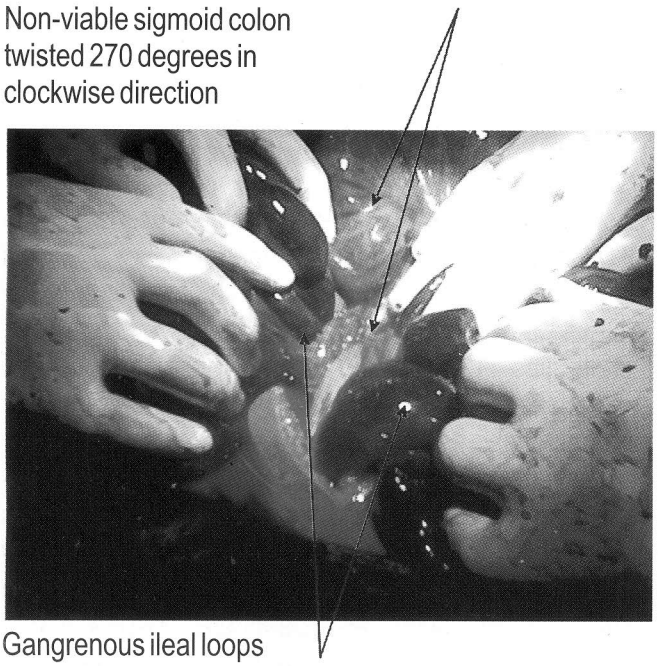

FIGURE 1

DISCUSSION

The patient reported herein manifested clinical features consistent with ileosigmoid knotting as noted in the literature.[3] The diagnosis of ileosigmoid knotting was not considered preoperatively because of the uncommon nature of the disease. Though preoperative diagnosis of ileosigmoid knotting is uncommon, [3,4] it is possible when clinical features, radiologic and sigmoidoscopic findings are considered together.[3,5]

The high mortality associated with ileosigmoid knotting can be minimized with early presentation of patients and early diagnosis, aggressive resuscitation and prompt surgical intervention.[1] The dramatic rapidity and severity of symptoms due to tightness of the knot, led to early and extensive gangrene of the bowel, thus inevitably urging the patient to seek medical help promptly. Gangrene of the intestine increases the risk of mortality.[6] Our patient underwent operation 48 hours after the onset of abdominal symptoms. He had initial fluid and electrolytes resuscitation and antibiotics at a peripheral hospital before presentation at JUTH which could explain why his clinical condition was not life threatening despite the finding of a gangrenous bowel intraoperatively. Alver and co-workers in their evaluation of 68 cases, noted an inverse correlation between the duration of symptoms and mortality rate.[7]

The intra-operative findings in our patient of a hypermobile ileum with markedly elongated mesentery and a redundant sigmoid colon with a long mesocolon and a short attachment at the base of the mesentery were consistent with the predisposing factors for ileosigmoid knotting.[3] Primary anastomoses (ileo-colic and colo-colic) following resection of gangrenous bowel were safely performed on our patient without bowel preparation, which agrees with findings by other workers.[5,6] Resection and primary anastomosis without exteriorization has been reported to have a superior outcome.[2] Some workers have reported good outcomes with primary anastomoses of small intestine with end-colostomy following resection of gangrenous small bowel and sigmoid colon respectively. [8] Other workers preferred the addition of a Hartmann's procedure after resection and primary anastomosis.[4,7]

Sule and co-workers in 1999 reported a better outcome with one-stage resection after on-the-table colonic lavage to reduce the fecal load and wound contamination in patients with sigmoid volvulus.[9] Conversely, there are studies that showed increased risk of wound infection in patients who had bowel preparation.[10] In this report, we used normal saline only for peritoneal lavage with a good outcome.

In conclusion, the possibility of ileosigmoid knotting, an uncommon condition, should be kept in mind in patients presenting with clinical features of intestinal obstruction. Resection of gangrenous intestine with primary anastomoses can be safely carried out in ileosigmoid knotting.

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