

An unexpected cause of Small Intestinal Obstruction in Crohn's Disease

L Brunton, B Hayee, A Cook, A Harris

Citation

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Abstract

A 58-year old man with previously characterised stricturing enteric Crohn's disease presented with a long history of anorexia, weight loss, abdominal bloating and colicky central abdominal pain. He was on immunosuppressant therapy with 6-mercaptopurine and this was changed to intramuscular methotrexate with no improvement. A small-bowel follow-through showed segmental strictures but no bowel dilatation. He was treated with an elemental diet through a percutaneous enteral gastrostomy (PEG) as he was unable to tolerate sufficient oral intake to meet his caloric requirements. His clinical condition deteriorated soon after the PEG insertion and, after appropriate resuscitation, he was taken for emergency laparotomy. At operation, internal jejunal herniation due to an omental band adhesion was noted. Pneumatosis cystoides intestinalis had developed as a consequence of the obstruction caused by the hernia and perforation had not occurred. No active Crohn's disease was identified. This case is a rare occurrence producing a relatively well-known presentation in a patient with known Crohn's disease and demonstrates that when patients do not respond to usual and progressive medical therapy, other diagnoses must be considered and appropriate management instituted to avoid potentially serious complications.

CASE REPORT

A 58-year old man with biopsy proven, stricturing enteric Crohn's disease was admitted with a three-month history of anorexia, weight loss, abdominal bloating and colicky central abdominal pain. His stool frequency and consistency was unchanged. He was an ex-smoker of four months and had no previous surgical or other medical history of note.

Prior to admission, treatment for presumed exacerbation of enteric Crohn's disease had been instituted, with oral corticosteroids, 6-mercaptopurine and elemental diet E028. However, he was unable to maintain sufficient caloric intake, limited by symptoms.

Full blood count and electrolytes were normal and a plain abdominal X-ray showed no significant small bowel dilatation. A subsequent barium follow-through showed segmental, stricturing Crohn's disease affecting the second and third parts of the duodenum with a (previously characterised) 5cm stricture in the terminal ileum. No significant small bowel dilatation or diverticula were demonstrated. A percutaneous gastrostomy (PEG) was inserted to optimise nutritional support, and as prior medical therapy had failed to control his symptoms, intramuscular methotrexate was commenced at 25mg once weekly.

Elemental feeding was re-commenced via the PEG.

Two days following PEG insertion, he deteriorated with abdominal distension and guarding in the epigastrium, complicated by hypoxia, hypotension and tachycardia. After fluid resuscitation he was taken for emergency laparotomy.

At laparotomy, patchy but quiescent Crohn's disease was identified affecting a segment of duodenum and a segment of terminal ileum, but without significant stenosis or dilatation of proximal bowel. However, there were two band adhesions identified in the proximal and distal jejunum. The distal omental band surrounded an internal jejunal hernia (figure 1). In addition, multiple air pockets were seen in the wall of the jejunum proximal to the hernia (figure 2). The band was divided and removed with the herniated portion of jejunum with a subsequent side-to-side anastomosis. The gastrostomy was also removed at this time.

Figure 1

Figure 1: Internal jejunal herniation



Figure 2

Figure 2: Air pockets in wall of jejunum



COMMENTS

The initial presentation of this case was thought to be due to sub-acute small intestinal obstruction secondary to stricturing enteric Crohn's disease. These symptoms failed to respond to conventional medical treatment with oral corticosteroids, 6-mercaptopurine, elemental diet or intramuscular methotrexate. Barium follow-through did not identify small bowel obstruction and a PEG was appropriately inserted to optimise nutrition and treatment. However, it appears that the increased feeding rate precipitated acute small bowel obstruction.

Adhesions are thought to be the cause of around 30-41% of all intestinal obstruction. For small-bowel obstruction, the proportion rises to 65-75%^{1, 2}. Of these, only 3% are thought

to be caused by congenital omental bands³, formed by abnormal adhesion of the peritoneal folds during embryogenesis⁴.

There is a well-known association between Crohn's and small bowel adhesions⁵. This occurs with increased fibrin release into the peritoneal cavity secondary to the chronic transmural inflammation, decreased fibrin breakdown, and consequent collagen matrix and persistent fibrous adhesions formation. There is however no literature concerning an association between Crohn's disease and omental band adhesions. The internal jejunal herniation observed in this case may be a result of previous or regional peritoneal inflammation (since there was no active Crohn's disease identified in the resected segment) or secondary to the band adhesion causing incarceration and obstruction.

Also of interest is the development of pneumatosis cystoides intestinalis (PCI), or subserosal, tense, gas-filled cysts. This is thought to be a sequel to other diseases causing intestinal obstruction, and a sign of bowel distension. There may also be an association between PCI and pneumoperitoneum⁶, although in this case it was most likely secondary to the PEG insertion.

In summary we report the case of a 58-year old man with acute small intestinal obstruction due to congenital band adhesions and internal jejunal herniation – and not due to his known stricturing Crohn's enteritis. This unusual case demonstrates that clinicians should reconsider a working diagnosis when the patient fails to respond to appropriate and intensive medical therapy.

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Author Information

Luke Brunton, BSc MRCS

Department of Gastroenterology, Kent & Sussex Hospital

Bu'Hussain Hayee, BSc MRCP

Department of Gastroenterology, Kent & Sussex Hospital

Alistair Cook, FRCP

Department of Surgery, Kent & Sussex Hospital

Adam Harris, MD, FRCP

Department of Gastroenterology, Kent & Sussex Hospital