

Massive Fecal Impaction Presenting with Megarectum and Perforation of a Stercoral Ulcer at the Rectosigmoid Junction

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Abstract: A 25-year-old male with lifelong constipation presented to the emergency department with an acute abdomen. Initial resuscitation was performed, and the patient underwent urgent laparotomy. He was found to have feculent peritonitis with megabowel involving the rectum and sigmoid colon and a stercoral ulcer with full thickness erosion, and perforation was also identified on the anti-mesocolic surface at the rectosigmoid junction. Abdominal irrigation and subtotal colectomy with proximal fecal diversion was performed. This case illustrates that recognition of severe, chronic constipation should lead to interventions including disimpaction and aggressive medical management. When indicated, megabowel can be managed surgically in an elective setting based on anatomic findings and physiologic studies. Peritonitis is an ominous late finding in patients with severe constipation.

Key Words: constipation, idiopathic megarectum, stercoral ulcer

Idiopathic megabowel and stercoral ulceration of the colon are two uncommon complications of constipation. Although easily managed with appropriate medical therapy, intractable constipation has been the cause of mortality related to stercoral ulcer with perforation, as well as with morbidities including respiratory arrest, urinary obstruction, acute lower extremity arterial insufficiency, and exacerbation of hepatic encephalopathy.¹⁻⁵ We report the case of a 25-year-old white male with a history of lifelong constipation and medical non-compliance who presented with peritonitis and was found to have idiopathic megarectum and a perforated stercoral ulcer at the rectosigmoid junction. A literature review of the above topics follows.

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Case Report

A 25-year-old white male presented to the emergency department with a chief complaint of severe, diffuse abdominal pain that began three hours before arrival. The patient reported prior bouts of diffuse abdominal pain that were much milder, each lasting approximately thirty minutes to one hour. The patient's father reported that the patient suffered from lifelong constipation and was medically noncompliant. Our records indicated one month before this episode, the patient underwent an examination under anesthesia and fecal disimpaction for severe constipation. The patient and his family were instructed to follow-up with the General Surgery service for future management of constipation, however, failed to do so. The patient admitted to self-medication with oral narcotics, nonsteroidal anti-inflammatory agents, and marijuana. Upon examination, the patient was noted to be tachycardic, diaphoretic, and tachypneic. The patient was mildly cachectic with a distended abdomen. Abdominal examination revealed rigidity with involuntary guarding. Emergency laparotomy was performed after resuscitation and administration of parenteral

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Key Points

- Constipation can lead to the catastrophic complications of stercoral ulceration with perforation and megabowel.
- Stercoral ulceration with perforation is an ischemic phenomenon involving impacted stool causing necrosis and erosion through large bowel wall with the majority of patients having underlying chronic constipation.
- Megabowel can be diagnosed and managed conservatively with elective surgical intervention reserved for medical failure.

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antibiotics. Exploration revealed a massively distended rectum and sigmoid colon. (Fig.) The abdominal cavity contained feculent fluid consistent with intestinal perforation. The remaining colon, small bowel, and stomach showed evidence of mild serositis, but were grossly normal. At the junction of rectum and sigmoid colon, there was a five-centimeter, full-thickness ulceration on the antimesenteric surface consistent with stercoral perforation. A resection of distended sigmoid and rectum was performed. Approximately five pounds of retained hard stool was evacuated from the distal rectal stump. The anal sphincter complex was markedly patulous and four fingers of the operating surgeon's hand were able to be passed transabdominally through the anorectum and out the anus. An end descending colostomy and distal mucus fistula were matured and the patient's abdominal fascia was closed. The patient had an uneventful recovery and was discharged. Final pathology of the resected rectum confirmed the presence of ganglion nerve cells in the submucosal and myenteric plexus in the distal large bowel, thus ruling out Hirschprung disease.

Discussion

Idiopathic megarectum is a rare diagnosis based on a history of severe constipation and a rectal diameter greater than 6.5 cm on contrast enema.⁶ The rectosigmoid colon in our patient was 12 cm in diameter. The pathophysiology of idiopathic megarectum is not yet understood. Our patient also presented with perforation of a stercoraceous ulcer of the colon as a complication of severe, lifelong constipation. The hard, impacted feces seen with stercoral ulceration and per-



Fig. Operative view of massively distended rectum and sigmoid colon.

foration has been described most commonly in elderly, mentally ill, and narcotic-dependent patients^{1,7,8}; however, our patient was 25-years-old with no diagnosed psychiatric disorders. Stercoral ulceration is thought to be secondary to impacted feces causing pressure necrosis and erosion through the wall of the rectum or colon.⁸ A review by Serpell and Nicholls⁹ describes an association with chronic constipation in only 61% of patients with stercoral perforation. The review by Patel et al⁸ hypothesizes a relationship between stercoral ulceration and nonsteroidal anti-inflammatory agents. The patient we report gave a history of chronic oral nonsteroidal and narcotic use for chronic abdominal pain.

An algorithm for the elective treatment of idiopathic constipation with megarectum and megacolon has recently been described with recommendations for diagnostic workup and surgical management.¹⁰ Treatment with enemas and laxatives to manage severe constipation was successful in 40% of 28 patients followed for six months. Before operative treatment is performed, colonic and anorectal physiologic studies, including measurement of anorectal inhibitory reflex, anal canal pressures, radio-opaque marker colonic transit study, and video defecography, should be performed. Colonic motility can be measured where equipment is available via an intraluminal colonic catheter. Full thickness anorectal biopsy is the final step to confirm the presence of ganglion cells and rule out the diagnosis of Hirschsprung disease. Our patient had ganglion cells in the distal segment of the resected rectum. Based on the algorithm in Ó Súilleabháin's series, our patient might have been a candidate for either restorative proctocolectomy or proctectomy with coloanal anastomosis if conservative treatment failed. Other elective surgical options for idiopathic megarectum with constipation include subtotal colectomy, temporary or permanent fecal diversion, and vertical reduction rectoplasty.¹⁰⁻¹² Improvement in symptoms and quality of life with surgical intervention for chronic constipation with megabowel is reported to be as high as 85%.¹¹

Complications of constipation can vary in severity, from malnutrition and socially unacceptable incontinence with soiling to respiratory compromise necessitating intubation, intestinal obstruction necessitating laparotomy, and peritonitis due to intestinal perforation.^{2,13,14} Megarectum and megacolon are idiopathic complications of constipation that develop for reasons that are still unknown. Identification of patients at risk for these complications is difficult as they may be non-communicative inpatients in nursing homes and psychiatric centers. They might not complain of constipation, intolerance of oral intake, or abdominal pain or other symptoms that might disclose a history of chronic, severe constipation. The initial presentation of constipation can be an intra-abdominal catastrophe such as abdominal compartment syndrome, bowel obstruction, or free perforation and peritonitis.^{7,8,13,14}

Our patient presents an unusual case of an otherwise healthy 25-year-old male with no underlying psychiatric disorder who presented with intestinal perforation due to chronic

neglect of his severe constipation. Severe constipation and idiopathic megabowel can often be managed conservatively. Before considering operative treatment, other anorectal disorders must be ruled out, especially Hirschsprung disease. Patients who fail nonoperative management may be candidates for different surgical procedures based on anatomic and physiologic findings. These procedures include subtotal colectomy with ileorectal anastomosis, vertical reduction rectoplasty, or total proctocolectomy with either end ileostomy or ileoanal anastomosis.

Conclusions

We report a rare case of idiopathic megarectum with a stercoral ulcer perforation. Patients with megacolon can be managed medically with laxatives and enemas. Patients with refractory disease should undergo anorectal studies to rule out disorders, especially Hirschsprung disease. Some of these patients may require resection or narrowing of the rectosigmoid area. Operation with resection is required when these patients present with a complication such as perforation.

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Train up a fig tree in the way it should go, and when you are old sit under the shade of it.

—Charles Dickens