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Mission Disimpaction: Endoscopic Management of Stercoral Colitis in an Adolescent

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Abstract: Stercoral colitis is a rare entity of inflammatory colitis with high morbidity and mortality attributable to colonic fecaloma impaction, often a result of chronic constipation. Despite demographic imbalance favoring elders, children hold comparative risk factors for chronic constipation. Suspicion for stercoral colitis is warranted in nearly every stage of life. Computerized tomography (CT) is diagnostic for stercoral colitis, where radiological findings correlate to high sensitivity and specificity. Difficulty exists discerning from other acute and chronic intestinal etiologies with overlapping nonspecific symptoms and laboratory markers. Management involves prompt risk assessment for perforation and immediate disimpaction to avoid ischemic injury, with endoscopic directed disimpaction standard of care for nonoperative measures. Our case describes stercoral colitis in an adolescent with contributive risk factors for fecaloma impaction and is one of the first adolescent case reports involving successful endoscopic management.

Stercoral colitis is an uncommon form of inflammatory colitis resulting from focal compression of colonic mucosal wall and vasculature by large hardened fecal material, termed fecaloma, or synonymous to a large fecalith. Colonic injury from fecaloma impaction involves mechanisms relating to pressure necrosis and increase of intraluminal pressure, potentiating risk of ischemia with progression to ulceration and perforation (1). Associated high morbidity and mortality in stercoral colitis are likely attributable to delay in recognition of diagnosis and thus management to avoid complications of ischemic colitis, sepsis, and eventual perforation. Diagnostic difficulty remains with differentiating from other common intra-abdominal etiologies and nonspecific examination or laboratory findings. Computerized tomography (CT) imaging with intravenous contrast is considered the diagnostic gold standard in stercoral colitis, as specific colonic findings correlate diagnosis and degree of severity. Prompt fecaloma disimpaction is a priority in nonoperative management, with any concern of perforation requiring surgical evaluation. Chronic constipation is identified as the biggest risk factor for development of stercoral colitis. Despite the disproportionate number of reported cases in the literature of stercoral colitis among the elderly, incidence in the pediatric-age group must not be overlooked, as chronic constipation is a well-known entity with a wide range in age affected in this population. Our case report describes an adolescent female with a complex medical history inclusive of severe chronic constipation requiring inpatient course for clinical findings consistent with stercoral colitis and need for endoscopic fecaloma disimpaction, which is one of the first pediatric case reports of stercoral colitis describing successful use of endoscopic measures for disimpaction.

CASE PRESENTATION

An 18-year-old female with remarkable history for anorectal malformation, prior colostomy, and reversal with Malone antegrade colonic enema (MACE) placement for chronic constipation, neurogenic bladder, and anxiety and depression had presented for worsening abdominal pain the prior 3 days involving intractable vomiting and absent bowel movements for 2 weeks despite numerous MACE and rectal enemas. Patient exhibited abdominal guarding without peritoneal signs at presentation to the emergency department (ED), with subsequent initial studies demonstrating leukocytosis (WBC 14.36 k/mm^3) and elevated CRP (14.0 mg/dL) and lactate (3.0 mmol/L). Dilatation of the transverse colon on preliminary abdominal radiograph prompted CT (Figure 1) specifying concern for stercoral colitis on the basis of radiological features involving a large rectal stool burden associated with marked rectal wall thickening and submucosal enhancement. Broad spectrum antibiotics were initiated after blood cultures, and she was hospitalized for fecal disimpaction given failed clean out at home and concern for resultant colitis with risk of perforation and septicemia. Decision for endoscopic disimpaction shortly followed after frugal results from initial measures involving rectal castile soap sud enemas, MACE delivery of osmotic laxatives, and

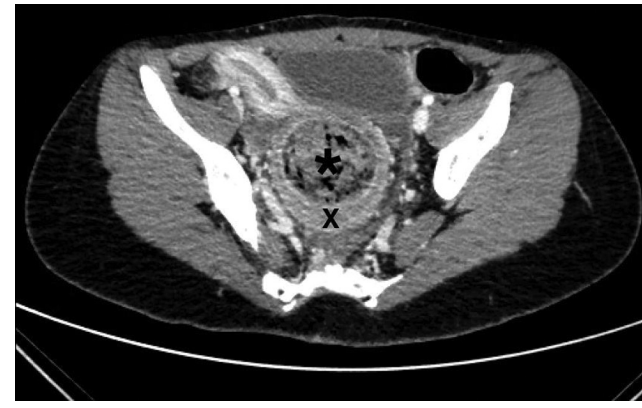

FIGURE 1. Computerized tomography axial view displaying a large rectal stool burden (*) with features for rectal wall thickening and submucosal enhancement (X).

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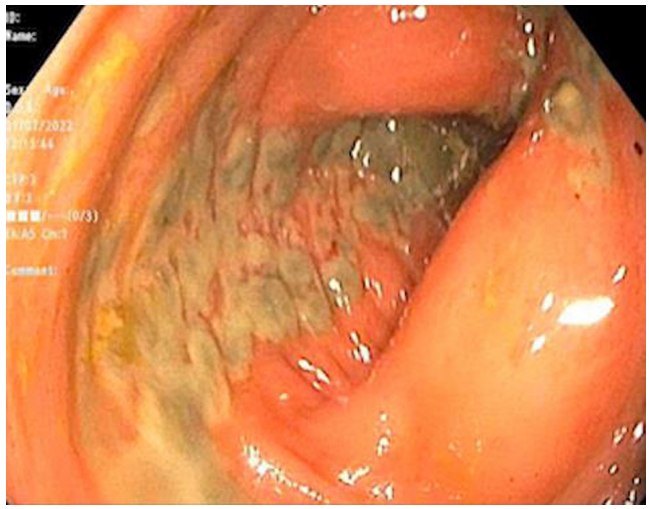

FIGURE 2. Endoscopic view post-disimpaction of rectosigmoid with presence of mucosal erythema and numerous clustered ulcerations where the fecaloma resided.

digital rectal manipulations. Endoscopic visualization encountered a large fecaloma in the more proximal rectosigmoid, stool burden extending to hepatic flexure and requiring repetitive irrigation to break down stool debris. Upon completion of endoscopic disimpaction with colonic clean out, noticeable mucosal findings were apparent with erythema and closely clustered superficial ulcerative lesions lining the rectosigmoid area where the fecaloma previously resided (Figure 2). Patient was discharged the following day with resolution of symptoms and normalization of laboratory markers (WBC 5.86 k/mm^3, CRP 2.8 mg/dL, and lactate 1.0 mmol/L) with negative growth from blood culture.

DISCUSSION

Our case describes one of the first adolescent patients with stercoral colitis managed with endoscopic disimpaction. Primary management of stercoral colitis is prompt removal of the obstructive fecalith, with any concern for perforation or signs of peritonitis requiring immediate surgical evaluation along with initiation of intravenous broad spectrum antibiotic (2). Conservative means for disimpaction include oral laxative regimens, enemas, and manual rectal disimpaction. Numerous case reports and reviews in the literature support endoscopic guided disimpaction as the standard of care for nonoperative management in stercoral colitis (3). Advantages attributed to endoscopy relate to ability for direct visualization of impacted fecalith, determine severity of colitis including presence of mucosa ulcerations, and direct endoscopic measure for expedited fecalith removal limiting further complications related to impaction (3).

Typical demographic reports of stercoral colitis reference the elderly, associated with numerous comorbidities contributing to a state of chronic constipation. Reports of pediatric cases of stercoral colitis are limited in this already uncommon entity, with total cases in the single digits (1). Risk for chronic constipation is well cited during select pediatric developmental milestones, in addition to pediatric subgroups involving congenital anorectal malformations, autism spectrum disorder, and mental health disorder (4). Pediatric cases of stercoral colitis demonstrate a diverse age range (2–17 years old), and a large percentage also affiliated with severe outcomes involving bowel perforation (1).

Nonspecific clinical symptoms create difficulty in differentiating from other similar presentations like appendicitis and inflammatory bowel disease, with frequent complaints of abdominal pain, distension, nausea, vomiting, anorexia, and constipation (2). A predictive diagnostic approach relies on radiological imaging; physical and laboratory findings are less sensitive markers for stercoral colitis. CT imaging with intravenous contrast is considered most sensitive and specific for stercoral colitis (2). Features on CT associated with stercoral colitis include colonic distension with focal wall thickening commonly rectosigmoid in location, and most suggestive is presence of stranding of the pericolonic fat in a colonic segment that shows fecal impaction translating to presence of edema or ischemia (2).

Early recognition of risk factors and clinical suspicion for stercoral colitis is required to pursue appropriate imaging to further confirm diagnosis, and subsequently aggressive management for prevention of associated high morbidity and mortality outcomes.

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