

A Complicated Case of Constipation

Aly M. Mohamed, MD* ; Allyce Caines, MD; Maye M. Mohamed, BS; Shaham Mumtaz, MD; Omar Khan, MD

*Aly M. Mohamed, MD

Division of Gastroenterology and Hepatology, MSC 10-5550, 1 University of New Mexico, Albuquerque, NM 87131, USA

Tel: (505)272-4756, Fax: (505)272-6839; Email: amohamed@salud.unm.edu

Abstract

Stercoral colitis is a rare inflammatory colitis which results from fecal impaction. Fecal impaction may be present for months-to-years prior to causing acute complications. Most cases of stercoral colitis are reported in the surgical literature with late complications of bowel perforation requiring surgery, and many cases are detected only at the time of autopsy. The incidence of stercoral colitis is expected to increase. Here we review the diagnosis and management of a patient with stercoral colitis.

Keywords

stercoral colitis, constipation, fecal impaction

Abbreviations

CT: Computed Tomography; SaO₂: arterial oxygen saturation; BID: Bis in Die; PO: per os

Introduction

Stercoral colitis is a rare, life-threatening inflammatory colitis which results from fecal impaction causing increased colonic intraluminal pressure [1,2]. Fecal impaction occurs most commonly in the sigmoid and rectosigmoid colon [3, 4]. If left untreated, regional bowel wall injury may progress to stercoral ulcer formation, ischemic necrosis and ultimately perforation, peritonitis and sepsis. These complications often result from an untimely diagnosis [1, 4, 5]. Early detection of stercoral colitis is paramount to successful treatment, prevention of complications, and patient survival [2, 5]. We present a patient with acute symptoms of increased bowel urgency and frequency diagnosed with stercoral colitis, and review the diagnosis and management of stercoral colitis.

Case Report

A 92-year-old female with a history of hypertension, coronary artery disease, atrial fibrillation and chronic constipation presented to the Emergency Department with complaints of increased abdominal distension, fecal leakage with mild rectal bleeding, rectal pain, and sharp, diffuse, left lower quadrant abdominal pain for 1 week. The left lower quadrant pain was rated 9/10 in severity without radiation. The patient had discontinued long-standing bowel regimen of senna and docusate 3 years previously, choosing instead to increase her dietary fiber intake to manage her constipation. She usually passed a bowel movement every 4-5 days prior to the onset of this episode. Three weeks prior to admission she had suffered a fall on her right hip (without fracture) for which she had taken one

Hydrocodone 5mg/Acetaminophen 325mg tablet every 6 hours as needed for pain control for 19 days. She had no previous history of abdominal surgery. A colonoscopy performed 3 years prior for small blood in the stool was significant only for mild sigmoid diverticulosis and small internal hemorrhoids.

On review of systems she had generalized weakness, decreased oral intake of food and fluids and decreased urinary output. She denied any history of vomiting, melena, gross hematochezia, fever or weight loss. Her blood pressure was 100/54 mmHg, heart rate 105/min, respiratory rate 18/min, temperature 36.7C, and blood arterial oxygen saturation (SaO₂) of 92% on room air.

On examination, the abdomen was distended, tympanic to percussion, bowel sounds were hyperactive, and there was rebound tenderness on light palpation in the left lower quadrant. Rectal exam revealed liquid brown stool in rectal vault. Results of laboratory tests revealed a hemoglobin 12.0 g/dL, a white blood cell count of 11.7×10^3 /L, an ESR of 7mm/hr, a CRP of < 4mg/dL, and a serum alkaline phosphatase of 172u/L (N<125). All other tests, including serum lactate were normal.

Clinical Course

A computed tomographic (CT) scan of the abdomen with contrast was performed on admission. The images revealed a large, dense, well organized mass extending from the proximal sigmoid colon (dilated to 7.7 cm in diameter, Figure 1a) to the rectum (Figure 1b). There was evidence of impaction, stranding of mesenteric fat, focal asymmetric colonic wall thickening, and marked thickening of the rectal wall with mural contrast enhancement (Figure 1c), all suggesting the presence of stercoral colitis.

Due to more proximal location of the mass, manual disimpaction of feces was unsuccessful. All oral intake was discontinued and maintenance IV fluids were administered. Three fleets enemas were given within 48 hours of admission. On the second day she was prescribed oral polyethylene glycol 17 grams BID and magnesium citrate 300 mL BID, resulting in the passage of large amounts of liquid stool streaked with blood. An abdominal radiograph on the third day following admission (Figure 2) revealed a persistent large fecal mass in the recto sigmoid colon and severe colonic distention. Oral mineral oil and mineral oil enemas were added to her bowel regimen on the fourth day. Serial abdominal exams noted improvement in abdominal pain and distention. On the fifth day, a repeat abdominal radiograph revealed resolution of the previously visualized fecal ball.

On the seventh hospital day, the patient was discharged with prescription of a bowel maintenance regimen of polyethylene glycol 17 grams twice daily. At an outpatient clinic follow up visit, one month later, the patient reported passing well-formed regular stools and resolution of constipation.

Discussion

Stercoral colitis is a rare, potentially life-threatening, inflammatory condition that results from fecal impaction that leads to increased colonic intraluminal pressure [1, 2]. Due to acute angulation and narrow diameter, the most common site of occurrence is in the recto sigmoid colon [3, 4, 6, 7]. The presence of a regional watershed in mesenteric vascular supply between the inferior mesenteric and superior rectal arteries predisposes this region (particularly along the anti-mesenteric border, referred to as Sudeck's point) to ischemia and to wall injury of variable thickness [5, 8, 9, 10]. Left untreated, the intraluminal pressure may exceed capillary perfusion pressure in the bowel wall, resulting in mucosal or total bowel wall ischemia, and may progress to formation of stercoral ulcers, bleeding vessels, ischemic

necrosis of the bowel wall and ultimately perforation, peritonitis and sepsis [4, 5, 7]. Microscopic examination of the bowel wall reveals mucosal necrosis, acute and chronic inflammatory changes and granulation tissue [5, 7]. These severe complications most often result from delay in diagnosis, and are associated with a case fatality rate of 35% in surgically-treated, and of 47% in conservatively-treated cases [1, 4, 5].

First described in 1894 [11], stercoral colitis is rapidly progressive [10]. Fewer than 150 cases of stercoral colitis have been described [12]. The disease predominantly affects those with chronic constipation (this risk factor is present in 60% of those diagnosed with fecal impaction), and includes geriatric patients, bed-bound individuals, those on medications that slow gastrointestinal motility (table 1), and those with neuropsychiatric or cognitive disorders [4, 9, 10, 12]. Fecal impaction may be present for months-to-years prior to causing acute complications [2, 4]. In addition, foreign bodies have been reported to serve as *nidi* for the formation of the associated fecalomas [2, 13].

Physical examination and results of laboratory tests may be unhelpful and alone cannot be used to reliably establish the diagnosis [2, 10, 14]. Importantly, the presence or absence of stool in the rectal vault on digital examination does not exclude the diagnosis fecal impaction [7]. In addition, diverticular diseases share many features with stercoral colitis, making it difficult but important to distinguish from diverticulitis [2, 4, 9]. A timely barium enema or CT scan may aid in early diagnosis and lead to prompt initiation of treatment. CT may reveal a fecaloma, focal wall thickening, colonic dilation, or stranding of peri-colonic fat [1, 2, 5, 7]. Wu et al. evaluated the value of CT in discriminating fatal from non-fatal stercoral colitis: it was noted that dense mucosa, perfusion defects, ascites, and an abnormal gas patterns were significantly predictive of a fatal outcome [14]. In the current case, the CT scan suggested the presence of a dense, well-organized, impacted fecaloma extending from the proximal sigmoid colon to the rectum that was causing significant bowel dilatation and marked rectal wall thickening.

In patients presenting early, without evidence of severe bowel injury, conservative management of stercoral colitis, employing bowel cleansing and manual disimpaction, may be all that is needed [6, 5, 10]. Patients with colonic perforation are rarely diagnosed pre-operatively. The finding of intraperitoneal gas on radiographic imaging indicates the need for immediate surgical intervention [4, 9]. The cautious use of flexible sigmoidoscopy has been reported useful in diagnosis, risk stratification and successful treatment of mildly affected patients [15, 7] but is not without hazard. It is important to exclude diverticulitis prior to performing flexible sigmoidoscopy. Flexible sigmoidoscopy allows for simultaneous assessment of mucosal injury and ulceration, visualization and direct access to mechanical disruption of the fecalith [7]. Bleeding stercoral ulcers are preferably treated with appropriate endoscopic hemostatic techniques [19]. Although some concerns surround the heightened risk of electrocoagulation causing perforation, local injection of epinephrine is a simple alternative not associated with significant tissue damage, but may fail if the tissue is ischemic [21, 22].

The incidence of stercoral colitis is expected to increase with expansion of the geriatric population [2, 4, 8, 9] and increasing prevalence of diseases, such as Diabetes or Parkinson's Syndrome, and widespread use of constipating drugs e.g. opiates, calcium-channel blockers, anti-cholinergics etc. Early diagnosis of stercoral colitis is the key to successful treatment, prevention of complications and patient survival [2, 5]. The best way to prevent the condition is to prevent constipation [15]. Healthcare providers

should be aware of the risk factors which predispose to fecal impaction. Prescription of opioid containing medications should always prompt consideration of a bowel maintenance regimen to avoid constipation. Demented patients should be carefully assessed directly for pain and constipation, and non-verbal patients should be assessed for changes in behavior suggestive of abdominal discomfort. Care givers of vulnerable groups should remain vigilant for constipation and promptly institute treatment aimed at preventing serious complications. The patient presented here was high risk and had multiple risk factors including advanced age, decreased mobility as a result of a hip injury, a predisposing history of chronic constipation, and prescription of opiate medications without institution of a bowel maintenance regimen.

Stercoral colitis is a rare inflammatory colitis that results from fecal impaction. Most cases reported in the surgical literature have developed late complications requiring surgery, many cases are detected at autopsy. Here we review the diagnosis and management of a patient who suffered from high grade fecal impaction, was rapidly diagnosed as having stercoral colitis, and was treated with an aggressive bowel regimen, while being followed closely with repeated abdominal examinations and radiographs. This management achieved gradual resolution of symptoms and thus avoided endoscopic intervention or hazardous surgery in a frail, elderly patient.

Table

Analgesics

- Codeine
- Nonsteroidal anti-inflammatory drugs
- Opioids

Antihypertensives

- Calcium channel blockers
- α_2 -agonists
- Diuretics (hypokalemia)

Cation containing substances

- Aluminum (sucralfate, antacids)
- Calcium carbonate
- Oral Iron

Anticholinergics

- Antidepressants
- Antipsychotics
- Antispasmodics
- Antihistamines
- Antiparkinsonian agents

Others

- Steroids
- Cholestyramine
- Pseudoephedrine
- Tranquilizers
- Long term laxative use

Table 1: Medications that slow bowel motility

Figures

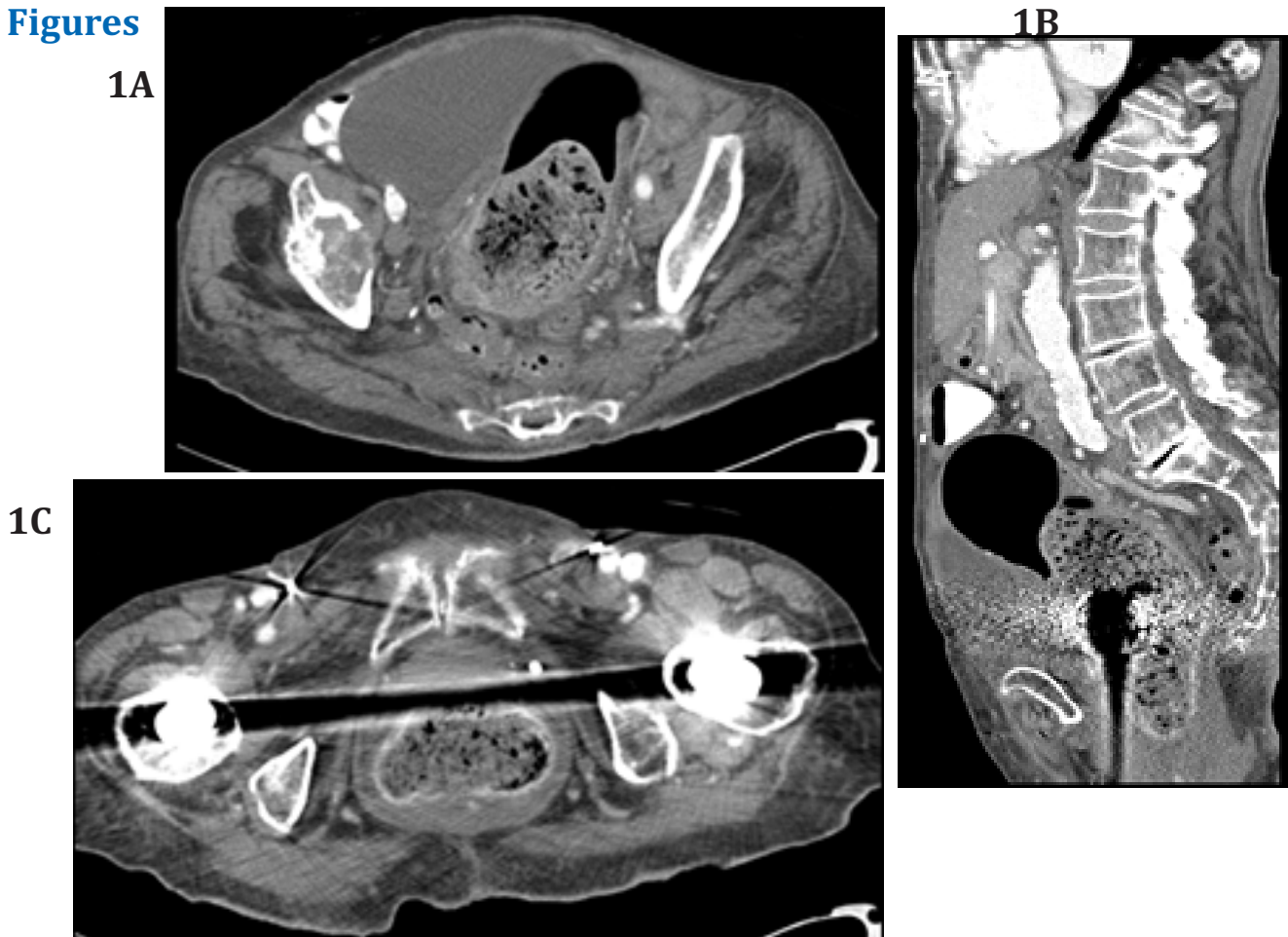


Figure 1: CT scan of the abdomen with contrast. (Fig 1A): Transverse section showing fecaloma causing dilation of the proximal sigmoid colon to 7.7 cm in diameter. (Fig 1B): Sagittal section showing dilation extending from the proximal sigmoid colon to the rectum with evidence of impaction, stranding of mesenteric fat, focal asymmetric colonic wall thickening. (Fig 1C): Transverse section showing marked thickening of the rectal wall, with mural contrast enhancement.



Figure 2: Abdominal radiograph on day 3 of admission with a persistent large mass in the rectosigmoid colon and severe colonic distention.

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Authors Information: Aly M. Mohamed, MD¹; Allyce Caines, MD²; Maye M. Mohamed, BS³; Shaham Mumtaz, MD²; Omar Khan, MD⁴

¹ Department of Internal Medicine, Division of Gastroenterology & Hepatology, University of New Mexico School of Medicine, Albuquerque, NM

² Department of Internal Medicine, Loyola University Medical Center, Chicago, IL

³ Trinity School of Medicine, Kingstown, Saint Vincent and the Grenadines

⁴ Department of Internal Medicine, Division of Gastroenterology & Hepatology, Loyola University Medical Center, Chicago, IL

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