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STERCORAL COLITIS- INDUCED ISCHEMIA MIMICKING ACUTE MESENTERIC ISCHEMIA: A CASE REPORT AND LITERATURE REVIEW

Mohammad N. Kloub[1], Ahmad Haddad[1], Mohammad Abushanab[1], Qusai Al-maharmeh[1], Muhammad Hussain[2], Abdullah Al Qazakzeh[3], Atheer Anwar[4]

[1] Department of Internal Medicine, Saint Micheal's Medical Center, Newark, USA
[2] Department of Internal Medicine, Division of Gastroenterology and Hepatology, Saint Micheal's Medical Center, Newark, USA
[3] Department of Internal Medicine, Hamad Medical Corporation, Doha, Qatar
[4] General Physician

Corresponding author: Mohammad N. Kloub **e-mail:** mohammad_kloub98@yahoo.com

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ABSTRACT

Stercoral colitis is a rare but serious condition characterized by inflammation of the colonic mucosa due to impacted and hardened faecal material. The word "stercoral" means "related to faeces". This condition usually develops due to the accumulation of hard stool masses in the colon, which cause localized inflammation and irritation. These faecalomas can exert persistent pressure on the colonic wall, causing damage and inflammation. Stercoral colitis presenting symptoms that mimic acute mesenteric ischemia is a diagnostic challenge for clinicians due to the overlap in clinical manifestations. Changes in bowel habits, bloating, and excruciating abdominal pain are potential manifestations of both illnesses, making it difficult to distinguish between them using clinical presentation. Diagnostic imaging, such as computed tomography scans, significantly discriminates between stercoral colitis and acute mesenteric ischemia.

In cases where stercoral colitis mimics acute mesenteric ischemia, a thorough evaluation is essential to rule out vascular compromise. Timely and accurate diagnosis is crucial, as the management strategies for these two conditions differ significantly. Stercoral colitis often requires bowel evacuation and addressing the underlying faecal impaction. Acute mesenteric ischemia demands prompt vascular intervention to restore blood flow and prevent severe complications like bowel infarction. Given the potential overlap in symptoms and the critical importance of distinguishing between stercoral colitis and acute mesenteric ischemia, a multidisciplinary approach involving radiological imaging, clinical expertise, and timely intervention is essential for optimal patient care. This case highlights the importance of considering stercoral colitis when evaluating a patient with an acute abdomen, especially elderly patients with history of constipation.

KEYWORDS

Stercoral colitis, mesenteric ischemia, constipation, colitis

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LEARNING POINTS

- Constipation is a common condition that can lead to serious complications, especially in older people, and should be addressed as soon as possible.
- Early recognition of stercoral colitis and appropriate treatment can prevent critical consequences.
- Stercoral colitis can induce bowel ischemia, causing acute abdominal pain mimicking acute mesenteric ischemia.

INTRODUCTION

Stercoral colitis is a rare but dangerous inflammatory disease with a high morbidity and mortality rate, particularly when it coexists with intestinal perforation or ischemic colitis. Chronic constipation is a risk factor for developing stercoral colitis and colonic ischemia[1]. Patients may have no symptoms at all or nonspecific ones that might be mistaken for symptoms of acute mesenteric ischemia, diverticulitis, or even perforated appendix, which is more frequent in the elderly[2]. Increased intraluminal pressure from faecal impaction causes ischemia of the gut, which is the mechanism by which stercoral colitis results in colonic ischemia. Subsequently, ulceration and perforation may occur, which can lead to severe hemodynamic compromise. Patients can present with symptoms of acute abdomen, and a colonoscopy and abdominal computed tomography (CT) scan are used to identify the condition. Delays in diagnosis can result in perforation and septic shock, which can have a 60% fatality rate[2,3]. There are currently very few documented cases of ischemic colitis that are exacerbated by stercoral colitis[4]. This case report outlines the possible difficulties in diagnosing and treating stercoral colitis-induced ischemia when the clinical symptoms and results of initial investigations mimic acute mesenteric ischemia.

CASE PRESENTATION

A 65-year-old woman presented complaining of diffuse abdominal pain and recurrent vomiting for a few hours. According to the patient, she had a history of watery stool for one week. However, one day prior to the presentation, she started having severe abdominal pain and recurrent vomiting. She had a history of diabetes, hypertension, and atrial fibrillation but was not on anticoagulation therapy as she had a history of gastrointestinal bleeding one year before presentation. On examination, she was found to have low blood pressure and tachycardia. The abdomen was soft but diffusely tender, mainly in the periumbilical area. Initial lab tests showed leukocytosis, lactic acidosis, and high inflammatory markers *(Table 1)*. The patient was admitted to the Intensive Care Unit (ICU) as a case of septic shock with acute kidney injury (AKI) and lactic acidosis. She was resuscitated with intravenous (IV) fluid boluses and was started on broad-spectrum antibiotics with IV sodium bicarbonate. Although the patient received fluid resuscitation and ICU supportive measures, she kept complaining of severe abdominal pain. Repeated blood gases revealed persistently high lactate. Abdominal X-ray showed multiple dilated large bowel loops loaded with faeces *(Fig. 1)*. CT angiography of the abdomen revealed significant arteriosclerotic changes in the abdominal aorta and branches, predominantly the mesenteric vessels. A partial filling defect was seen in the proximal superior mesenteric artery, suggesting an eccentric chronic thrombus or large plaque. The left colon was loaded with faecal content and the rectum, and sigmoid distended with oedematous wall thickening and pericolic stranding, suggesting stercoral colitis due to high intraluminal pressure *(Fig. 2)*. The patient's abdominal pain and lactic acidosis started to improve with frequent bowel enemas and laxatives and then resolved entirely.

DISCUSSION

First reported by Berry et al. in 1894, stercoral colitis is an uncommon consequence of faecal impaction and prolonged constipation[5]. When a patient experiences persistent constipation, which results in stagnation of faecal matter, they develop colonic colitis. This eventually causes the colon to become deformed due to increased volume and impaction. Faecaloma is a mass of hardened faeces that accumulates in particular bowel regions and cannot be

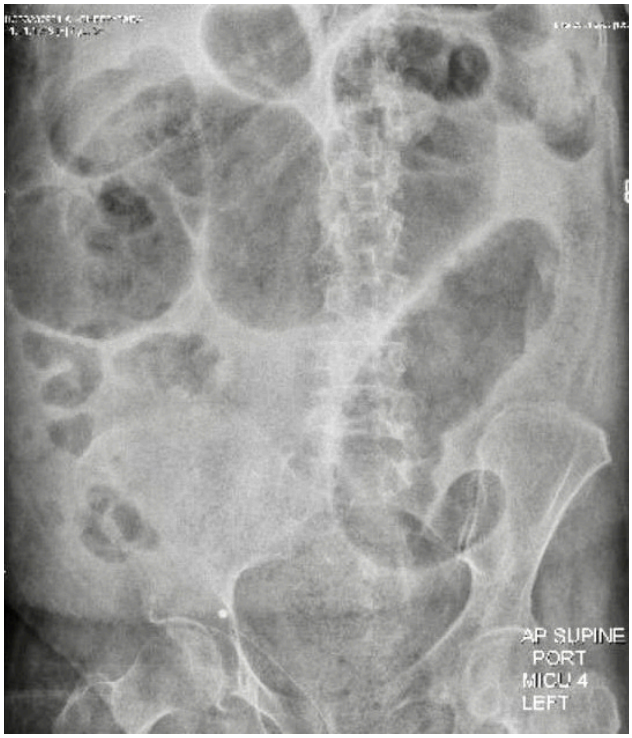

Figure 1. Abdominal X-ray showing multiple dilated large bowel loops loaded with faeces.

Figure 2. CT abdomen showing the left colon loaded with faeces, rectosigmoid distention with oedematous wall thickening and pericolic stranding (red arrow).

evacuated spontaneously. Reduced blood flow to the region may result from focal compression of the intestinal wall and vasculature by the faecaloma. Intestinal wall ulceration and pressure necrosis will occur when the blood supply is insufficient to fulfil the demands of cellular metabolism, causing elevated lactic acid levels. Usually, the regions distal to the faecaloma are where ulceration happens. Because the blood supply to the colon comes from the mesentery, the antimesenteric side of the colon is more susceptible to ischemia, which is why these ulcerations usually occur on this side[5]. Bowel perforation, which is associated with a high mortality rate, can occur from focal pressure necrosis if it is not treated quickly.

Due to its rarity and unpredictable appearance, stercoral colitis can be challenging to diagnose. The clinical signs and symptoms resemble other intestinal or colonic diseases. However, with modern imaging methods and a sharp clinician, the correct diagnosis may be made, and prompt treatment can be started. A thorough history of current presentation and comorbidities is required. The assessment process includes imaging, blood tests, and a physical examination. Diagnosis can be challenging since laboratory tests and physical examinations are typically nonspecific. Acute phase reactants and leukocytes may be increased in laboratory investigations. Elevated lactic acid and metabolic acidosis may result from stercoral colitis, mainly if complications like abscess development and colonic ischemia or intestinal perforation occur. An upright chest X-ray should be performed if there is a high degree of suspicion, to check for intestinal perforation and free air under the diaphragm[6]. The most precise and sensitive modality is CT abdomen and pelvis with contrast; colonic enlargement, thickening of the colonic wall, diffuse wall oedema, pressure necrosis, or ulceration are among the possible findings[6]. The differential diagnoses for stercoral colitis include diverticulitis, significant bowel obstruction, ulcerative colitis, infectious colitis, malignancy, bowel perforation, acute mesenteric ischemia, and intra-abdominal abscess[7].

Patients who do not have symptoms of peritonitis can be treated conservatively[5]. The use of a bowel regimen, close monitoring during hospital admission, manual disimpaction via the rectum, or endoscopically guided disimpaction are examples of non-operative techniques[6]. Adequate resuscitation, such as intravenous fluid and broad-spectrum antibiotics, is necessary for patients suffering from sepsis or septic shock[8]. Patients with perforation, severe bowel involvement, or situations where conservative treatment has failed are candidates for surgery[5]. The prognosis of stercoral colitis is directly connected to prompt diagnosis and care. Perforation is the most frequent major complication of stercoral colitis and is associated with a high mortality rate. Sepsis, septic shock, ischemic colitis, and urine retention brought on by intestinal compression due to dilation are further concerns[4]. Patients who arrive with evidence of peritonitis owing to a colonic wall perforation may undergo surgery to remove the dilated colon as part of their surgical management. Early identification and treatment of our

Parameter	Value	Normal range
White blood cells (WBC)	21.1 x 10^3/µl	4-10 x 10^3/µl
Haemoglobin (Hgb)	10.7 gm/dl	12-15 gm/dl
Platelets	475 x 10^3/µl	150-410 x 10^3/µl
Urea	8.7 mmol/l	2.5-7.8 mmol/l
Creatinine	132 µmol/l	50-98 µmol/l
Bicarbonate	8.9 mmol/l	22-29 mmol/l
Hemoglobin A1C (HbA1C)	7.4 %	4.8-6 %
C-reactive protein (CRP)	141 mg/l	0-5 mg/l
Procalcitonin	6.86 ng/ml	0-0.5 ng/ml
pH arterial	7.225	7.35-7.450
pCO_2 arterial	26 mmHg	35-45
Lactate arterial	7.30 mmol/l	0.36-1.6 mmol/l

Table 1. Patient's hypercoagulable test results.

patient prevented this disastrous outcome. To avoid the potentially catastrophic outcome of stercoral colitis, early detection, and treatment with colon cleaning and faecal disimpaction are crucial.

CONCLUSIONS

In conclusion, stercoral colitis has a variable presentation. In some instances, it can clinically present as acute mesenteric ischemia and it is crucial to differentiate between the two conditions. That is why doctors must have a high index of suspicion when evaluating patients presenting with acute abdomen and be familiar with the CT scan and colonoscopy results since this allows them to diagnose patients and begin therapy as soon as possible. If left untreated, stercoral colitis can lead to bowel ischemia and death.

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