

Fecaloma – A Common Problem, Uncommon Dimensions

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ABSTRACT

Chronic constipation and fecal impaction are common in older individuals but can also be found in younger patients with cognitive and psychiatric illnesses. The diagnosis of fecal impaction and, the assessment of severity are best performed clinically. Here, we present a case of a 30-year-old autistic individual where limited history was obtainable and further imaging helped to urgently diagnose a 47 x 15.6 x 12 cm stool ball, causing significant mass effect of surrounding intra-abdominal structures. Fecal disimpaction and aggressive bowel regimen prevented the pathological effects of severe fecal retention.

KEYWORDS: fecal impaction, fecaloma, comorbidities in patients with intellectual disabilities

INTRODUCTION

Fecal impaction is defined as an accumulation of hard stool in the recto-sigmoid colon that cannot be evacuated spontaneously. It is preventable with early diagnosis and treatment; however, if left untreated, a fecaloma can form, which can cause pressure on the intestinal wall, the lumen, and the adjacent abdominal viscera. The increase in intraluminal pressure can cause bowel wall ischemia leading to stercoraceous colitis, ischemic colitis, bowel wall necrosis, intestinal perforation, fecal peritonitis, and death. In extreme cases, a giant fecaloma may cause a mass effect on the adjacent structures outside of the gastrointestinal tract. Management of stool impaction can be straightforward if diagnosed in a timely fashion, with the first line of treatment being a manual disimpaction, followed by an aggressive bowel regimen. This case illustrates a large fecaloma with a mass effect on the surrounding abdominal organs and vasculature.

CASE REPORT

A 30-year-old man with autism, chronic constipation, and fecal incontinence presented to the emergency department with emesis and diffuse abdominal pain for 2 days. Due to cognitive impairment and minimally verbal state, he was unable to characterize the pain, provide a review of systems or cooperate with the physical examination. His mother reported that his abdomen had become increasingly

distended, associated with multiple episodes of feculent vomitus, and decreasing urine output. He took bisacodyl and polyethylene glycol daily. He had no personal or family history of Hirschsprung's disease. He did not take any opioid medications, and he did not have any recent travel or infectious symptoms. On examination, he had resting tachycardia of 111 beats per minute with a blood pressure of 98/68 mmHg. Abdominal exam showed significant abdominal distension with right-sided tenderness without guarding or rigidity. The digital rectal exam showed hard, impacted stool. There was bilateral lower extremity blanchable erythema without edema. The fecal occult blood test was negative, and laboratory workup was unremarkable. Computed tomography (CT) scan of the abdomen and pelvis with contrast revealed a 47 x 15.6 x 12 cm stool ball extending from the rectosigmoid colon to the right hemidiaphragm with peri-rectal edema, concerning for stercoral colitis (stercoral colitis is an inflammatory colitis related to increased intraluminal pressure from impacted fecal material). There was mass effect on the abdominal and pelvic viscera, including the displacement of the urinary bladder in the left lower abdominal quadrant and displacement of liver cranially (**Figure 1**).

Figure 1. Computed tomography of abdomen and pelvis with contrast showing dilated sigmoid colon with hyperdense mass with air foci, demonstrating a 47x15.6x12cm fecaloma. The urinary bladder is displaced to the left lower quadrant (red arrow) and the liver which is displaced cranially (blue arrow).

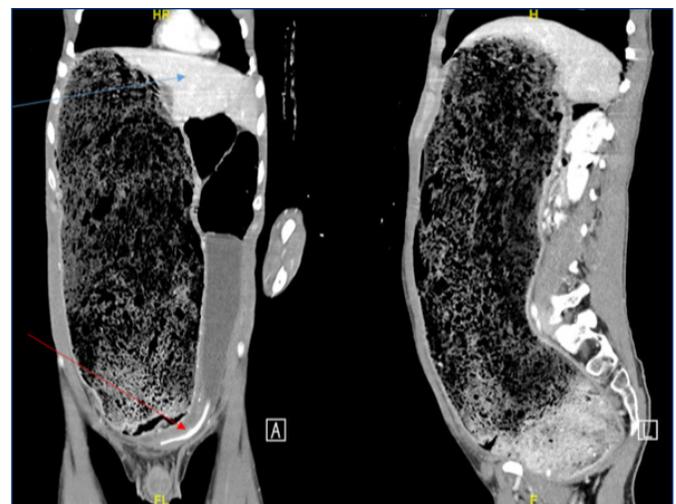
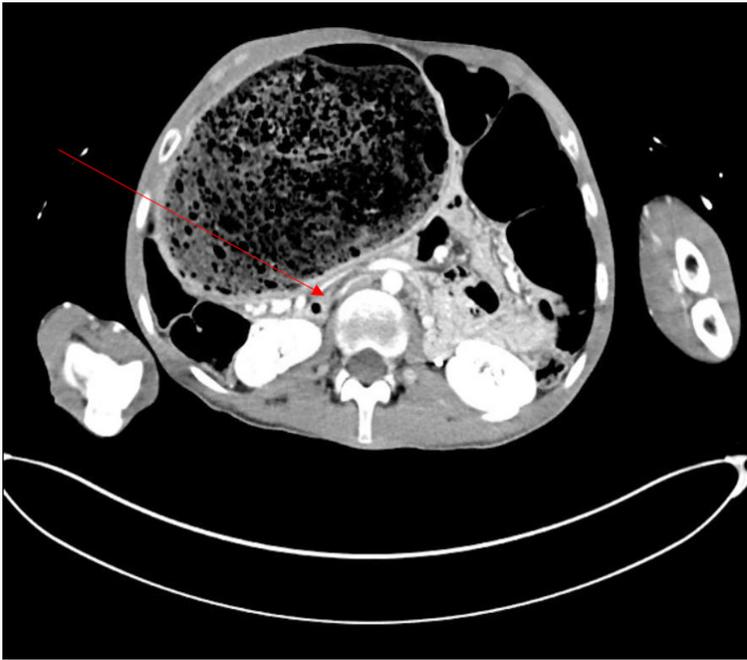


Figure 2. Computed tomography of abdomen and pelvis with contrast showing dilated sigmoid colon with hyperdense mass with air foci, demonstrating a 47x15.6x12cm fecaloma, with compression of the IVC (red arrow).



There was a complete collapse of the inferior vena cava with CT evidence of decreased return of the blood flow from the right lower extremity (Figure 2).

He underwent fecal disimpaction and the bladder was decompressed with a straight catheter, with 900 cc of urine output. Given his history of chronic constipation, he was started on an aggressive bowel evacuation protocol with oral polyethylene glycol, milk of magnesia, mineral oil, magnesium citrate, rectal bisacodyl, and tap water enemas. Bowel and bladder function returned, and his abdominal discomfort resolved. He was discharged one week later with an aggressive bowel regimen of mineral oil enemas, polyethylene glycol, and rectal suppositories.

DISCUSSION

Chronic constipation is prevalent in 14% of the population in North America and is the most prevalent comorbidity in adults with autism spectrum disorders and intellectual disabilities.^{1,2} A history of chronic constipation has been found in half of the patients with stool impaction and more than a quarter of cases had an underlying neuropsychiatric disease.³ The hospitalization rate for constipation for people with an intellectual disability is 8 times higher than for those without an intellectual disability.⁴ Risk factors for constipation in this group include inadequate dietary fiber and water intake, colonic hypomotility, rectal sensitivity impairment, and limited physical mobility.^{2,5} Chronic constipation is a well-known side effect of antipsychotic medications,

which are often prescribed to patients with intellectual disabilities.⁵

Fecal impactions usually present with vague symptoms of abdominal pain, distension, nausea, and vomiting and can mimic a broad range of intra-abdominal pathologies such as large or small bowel obstruction, colonic stricture, carcinoma of the colon, infectious gastroenteritis, colitis, diverticulitis, among others.² Patients with intellectual disability may not be able to communicate the history of constipation or describe the pertinent symptoms for the diagnosis that would trigger the timely management.^{2,5} In these patients, pain may usually present as distress, irritability, aggression, confusion, or sleep disturbance. Diagnostic delay is more likely in scenarios where “paradoxical diarrhea” is reported, or when loose stool seeps around the impacted stool. This is even more likely in patients with an intellectual disability, where the consequence of limited expression of symptoms becomes severe fecal impaction.^{2,3}

Fecal impaction can lead to serious intraabdominal complications. With limited distension of the anal passage and marked elasticity of the rectum, a mass of feces can become too massive to evacuate.

The hard stool ball can cause direct pressure on the intestinal wall of the rectosigmoid colon which has a smaller diameter and weak vasculature, causing ischemia, inflammation, and wall necrosis leading to stercoral colitis, ulceration, intestinal perforation, fistula formation, and peritonitis.³ Rectal distension can cause compression of adjacent abdominal structures which can lead to post-obstructive acute renal failure, obstructive uropathy, urinary retention, nerve compression, and radiculopathies.³ Extrinsic compression of major intra-abdominal vessels can impede venous return and decrease cardiac output.⁶ In extreme cases, excess intra-abdominal pressure can lead to abdominal compartment syndrome, which can progress to shock and hemodynamic instability.³

Diagnosis of fecal impaction requires a high clinical suspicion based on a complete history, abdominal exam, and palpation of hard stool on digital rectal exam. In non-collaborating patients where history is not reliable and physical exam cannot be performed, abdominal imaging with acute abdominal series or CT abdomen and pelvis with contrast can prompt early diagnosis and management of colonic fecal loading with a manual disimpaction followed by stimulation of colonic evacuation with suppositories and enema. Once an obstruction is relieved, a proximal stool washout can be initiated with oral laxatives.² Surgical evaluation is necessary in presence of an acute abdomen. Fecaloma-induced perforations have a high mortality rate of 33%.³ A fatal prognosis is common in patients with prior hospitalizations with stool impaction especially among patients with

neuropsychiatric illnesses, the elderly, and in those with chronic renal failure.³ Our patient improved with manual disimpaction followed by an aggressive bowel regimen with enemas and laxatives. Preventing future episodes of constipation with adequate fiber and water intake with a daily bowel regimen is of paramount importance.^{2,3}

CONCLUSION

Fecal impaction can cause significant complications, especially in the elderly and in patients with neuropsychiatric illness. In serious cases, it can result in fecalomas, which can cause inflammation, perforation, and mass effect on vital organs. Rapid diagnosis and removal of the fecaloma may prevent life-threatening emergencies.

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