

Fecal impaction in adults

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ABSTRACT

Fecal impaction is a common digestive disorder and is considered an acute complication of chronic and untreated constipation. Generally, the factors responsible for fecal impaction are similar to those associated with constipation. Early identification and treatment minimize complications and patient discomfort. Common treatment options to address fecal impaction of the rectum include manual disimpaction or fragmentation, the use of distal and/or proximal softening or washout procedures such as enemas and suppositories, and oral or nasogastric tube placement for the administration of polyethylene glycol solutions containing electrolytes. In severe cases, surgical intervention is necessary. Post-treatment evaluation should include a colonic evaluation by flexible sigmoidoscopy, a colonoscopy, or a barium enema after the fecal impaction resolves. Following treatment, conduct an evaluation of causes and create a preventive therapy plan.

Keywords: fecal impaction, constipation, colonoscopy, flexible sigmoidoscopy, barium enema, polyethylene glycol

Learning objectives

- Recognize risk factors for fecal impaction in adults.
- Identify fecal impaction based on history of present illness, physical examination, and diagnostics.
- Create a medical plan to relieve acute fecal impaction.
- Describe measures to prevent fecal impaction.

Fecal impaction is a common digestive disorder in adults (the focus of this article) and children. A fecal impaction is the inability to evacuate large, hard, inspissated concremented stool or bezoar in the lower gastrointestinal tract. The most common location for a fecal impaction is the rectum.¹ Fecal impaction is an acute

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complication of chronic and untreated constipation.² The incidence of fecal impaction increases with age, dramatically impairs quality of life, and is a source of significant patient abdominal and perianal discomfort.³ A retrospective study from a single tertiary medical center found that 0.7% of hospital admissions were due to fecal impaction; in a geriatric hospital unit, fecal impaction has been found in up to 42% of patients.⁴

CAUSES, PATHOPHYSIOLOGY, AND PREVALENCE

Generally, the factors responsible for fecal impaction are similar to those associated with constipation. Children and older adults are at greatest risk. Fecal impaction also commonly is found in patients with neuropsychiatric diseases such as Alzheimer disease, Parkinson disease, dementia, multiple sclerosis, debilitating stroke, or spinal cord injury (SCI).^{2,5}

Table 1 provides a list of factors contributing to fecal impaction. Top risk factors include colonic hypomotility and insufficient consumption of dietary fiber. Lack of mobility due to SCI or aging also may cause fecal impaction because of reduced colonic mass movement and patient inability to use abdominal muscles to assist with stool evacuation. Medications known to slow colonic motility

Key points

- Fecal impaction is an acute complication of chronic constipation.
- The condition commonly is found in patients with neuropsychiatric diseases such as Alzheimer disease, Parkinson disease, dementia, multiple sclerosis, debilitating stroke, or SCI.
- A DRE could be unrevealing in a patient with fecal impaction occurring in the proximal rectum or sigmoid colon. The absence of palpable stool does not rule out fecal impaction.
- Treatment is aimed at releasing the fecal impaction and correcting the cause to prevent recurrence.

include opioids, anticholinergics, calcium channel blockers, and iron preparations.³ Rarely, barium-related impaction in the colon or rectum has been reported.⁶ Metabolic disorders (such as hypothyroidism, diabetes, hypercalcemia, porphyria, and chronic renal insufficiency) and structural disorders (such as anorectal stenosis, neoplasm, and megarectum diseases such as Chagas disease and Hirschsprung disease) should be considered as potential causes and differential diagnoses as well.⁷

Whatever the cause of fecal retention, the colon's normal absorption of salt and water contributes to the hardening of the stool.⁵ The colon's peristaltic activity causes packing. Given the limited distensibility of the anus in conjunction with the distensibility of the rectum, a consolidation of stool can become too large to pass.⁸

In the outpatient setting, the prevalence of fecal impaction in older adults seems to be about 5%.⁹ In the inpatient setting, the prevalence may be as high as 40%, depending on the number of risk factors present in each patient.⁵

CLINICAL PRESENTATION AND COMPLICATIONS

Typical presentation for a patient with fecal impaction is similar to that of a patient with an intestinal obstruction from any cause and may include abdominal pain and

distension, nausea, vomiting, anorexia, or early satiety.³ Paradoxical diarrhea from fecal overflow and fecal incontinence also may be observed.⁵ Patients with intellectual disability or neuropsychiatric disease may present with increased agitation, confusion, and/or autonomic dysreflexia.⁸

Because of the extremely hard and large volume of stool associated with fecal impaction, complications may include stercoral ulceration or colitis, bowel perforation, pulmonary aspiration, rectovaginal fistula, or megacolon.¹⁰

Obtain a comprehensive history, including bowel habits, digestive disease symptoms, surgical history, medical history, and medications. Physical examination may reveal mild tachycardia with normal BP. This tachycardia typically is due to pain or dehydration. Patients with stercoral colitis and perforation may have a fever.

A focused abdominal examination reveals distension with tympani and diffuse generalized tenderness and pain. If the patient's body habitus allows, the clinician may palpate a malleable, tubular structure, usually in the left lower quadrant. This structure correlates with a stool-filled rectosigmoid. The impacted stool is not necessarily hard. Perform a digital rectal examination (DRE); the key feature to diagnose fecal impaction is in finding a copious amount of stool in the rectum vault. Keep in mind that a DRE could be unrevealing in a patient with fecal impaction occurring in the proximal rectum or sigmoid colon. The absence of palpable stool does not rule out fecal impaction.

Laboratory diagnostics should include a complete blood cell count with differential and a basic metabolic panel. Hepatic function tests are not routinely indicated unless a hepatobiliary cause of abdominal pain is suspected. Routine measurements of serum amylase and lipase are not necessary in the diagnosis of acute abdominal pain unless acute pancreatitis is suspected.¹¹ Lactate level also may be warranted depending on clinical concern for perforation and sepsis. The white blood cell count typically shows mild elevation with or without a left shift. The basic metabolic panel may show dehydration with acute kidney injury, hyponatremia, and hypokalemic metabolic alkalosis.

CT scan of the abdomen and pelvis diagnoses fecal impaction by the presence of a large fecal burden in the colon and rectum (**Figures 1 and 2**). When warranted, an acute abdominal series can be used as the first-line imaging modality to evaluate for free air, intraluminal feces, or signs of obstruction.

TREATMENT

Treatment is aimed at releasing the fecal impaction and correcting the cause to prevent recurrence.

Manual disimpaction Insert a well-lubricated gloved index finger into the rectum and break up the hardened stool by moving the finger in a side-to-side scissoring manner. Finally, move the finger, slightly bent, in a circular

TABLE 1. Risk factors for fecal impaction^{2,5}

- Lifestyle factors—immobility, bed-bound status, dehydration, insufficient fluid and fiber intake
- Presence of structural disorders—rectosigmoid stricture, anorectal stenosis/anorectal atresia, megacolon, colonic inertia, prior anal surgery (hemorrhoid banding, fissurectomy)
- Presence of neurologic or metabolic disorders—multiple sclerosis, Parkinson disease, Alzheimer disease, dementia, spinal cord injury, Chagas disease, cerebral palsy, impaired mental status, diabetic neuropathy, hypothyroidism, hypercalcemia, porphyria, chronic renal insufficiency
- Use of certain medications—opioids, anticholinergic agents, high-dose calcium channel blockers, tricyclic antidepressants, antipsychotics, iron

motion, and remove it from the rectum, bringing stool out. Repeat this procedure until the rectum is cleared. In rare cases, a colonoscope with a snare or looped guidewire may be used to fragment fecal material in the distal colon.¹²

Distal softening or washout Often, softening the hard stool and creating stimulation of evacuation is needed. This is achieved using enemas and suppositories. Each enema solution or suppository has characteristics that may be helpful in select patient populations. The volume and rate of solution administration is guided by the size of the patient's rectum and degree of fullness. Multiple smaller-volume enemas may be more beneficial than a single large-volume enema. A slower rate and smaller volume produce less patient discomfort, longer time of solution retention, and allow for more mixing of the solution. The process is repeated until the symptoms are relieved and returns are clear. A common regimen in clinical practice for adults is to administer one 500-mL enema every 2 hours, repeating three times, and then reassessing the patient.

Proximal softening or washout This treatment can be administered via a nasogastric tube or orally. Feces are softened and washed out using polyethylene glycol solutions containing electrolytes. This technique is contraindicated when a bowel obstruction is suspected or confirmed.

Surgical intervention Although most mild cases of fecal impaction can be treated with some form of enema or the previously described methods, patients with more severe cases require aggressive manual disimpaction, typically in the OR.¹³ A patient receiving aggressive manual disimpaction will likely require some variation of sedation in order to relax the anal sphincter complex before fecal impaction removal. Surgical intervention is reserved for patients who experience signs and symptoms of peritonitis. Peritonitis secondary to colon perforation is considered a surgical emergency. Perforation to the colon often requires a laparotomy, usually with resection and diverting colostomy. Surgical resection is localized to the affected area of the colon or rectum.¹³

Classic peritonitis signs can include tachycardia, fever, and leukocytosis; symptoms of peritonitis can include significant abdominal pain demonstrated by marked tenderness with voluntary guarding and percussion tenderness.¹⁴

POST-TREATMENT EVALUATION AND PREVENTION

Once the impaction has been adequately treated, a total colonic evaluation by flexible sigmoidoscopy, colonoscopy, or barium enema (in patients for whom colonoscopy is not feasible) should be done. Colonoscopy typically is recommended as an outpatient procedure. The colonic evaluation should be performed to reveal anatomic abnormalities, such as stricture or malignancy. Thyroid function tests also are indicated to rule out hypothyroidism,

a common cause of constipation.

In the absence of an anatomic abnormality, a bulking agent (psyllium, methylcellulose) or an osmotic agent such as polyethylene glycol commonly is administered long-term to produce soft regular bowel movements. Address other risk factors, such as dehydration, depression, immobility, lack of exercise, and inadequate access to toilet facilities. Up to 39% of patients with fecal impaction have recurrence.^{15,16} Prevention is a key element in a successful therapy plan.

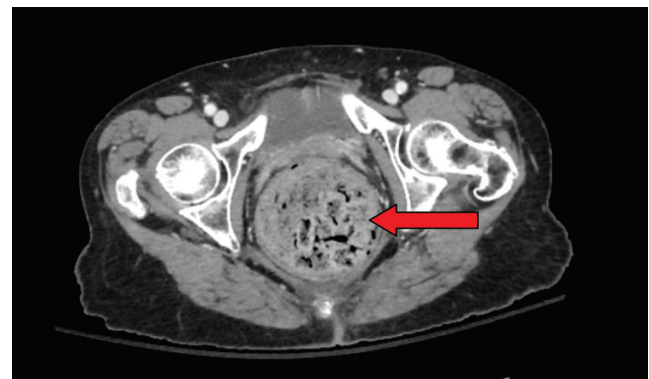
CONCLUSION

Fecal impaction is a common condition encountered in clinical practice. Early identification and treatment minimize complications and patient discomfort. Treatment options include digital manual disimpaction, proximal and distal washouts, and, less commonly, surgical interventions.

FIGURE 1. Coronal view of CT scan of the abdomen and pelvis showing fecal impaction by a large fecal burden in the rectum (arrow)



FIGURE 2. Axial view of CT scan of the abdomen and pelvis showing fecal impaction by a large fecal burden in the rectum (arrow)

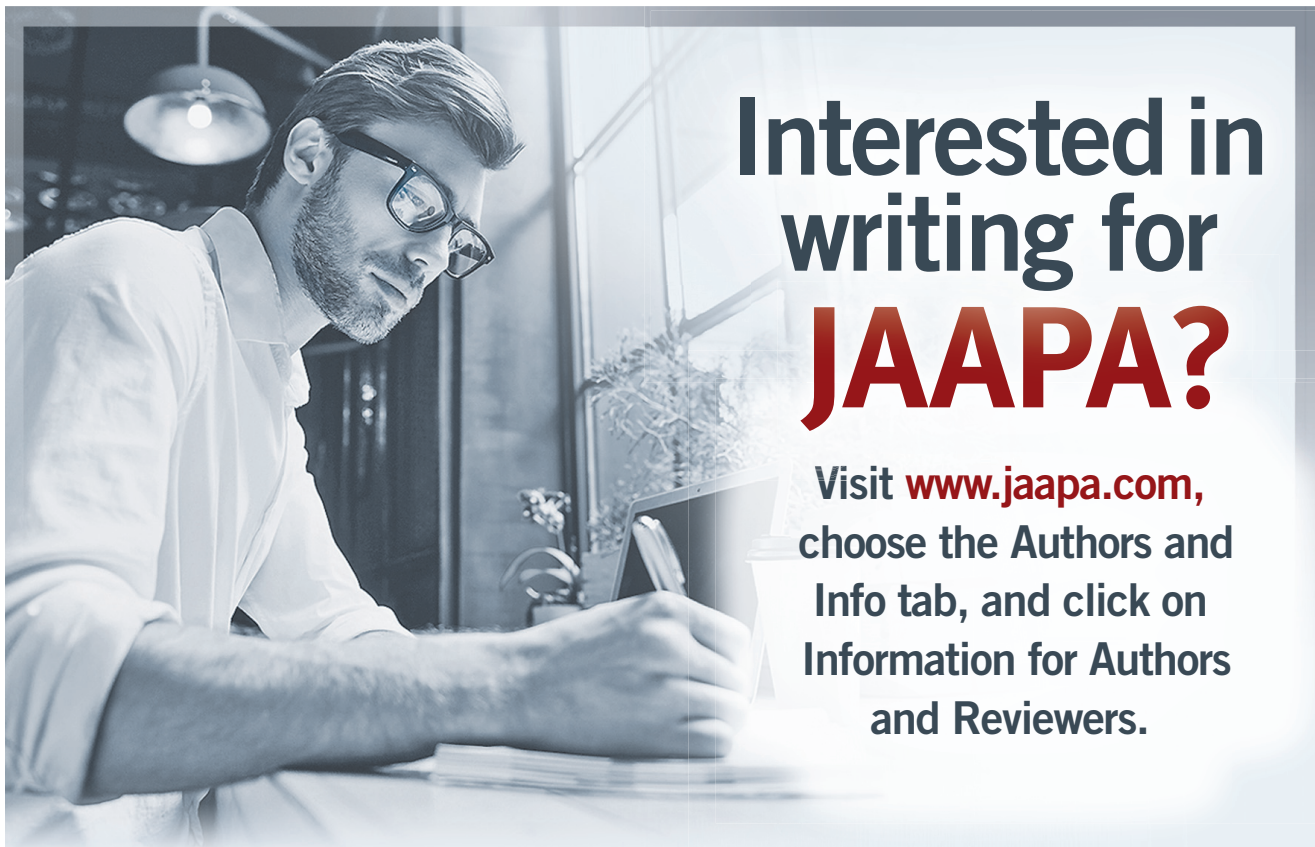


Following treatment, conduct an evaluation of causes and create a preventive therapy plan. **JAAPA**

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