MAYO CLINIC

39-Year-Old Woman With Constipation and Abdominal Pain

S. Bradley Hicks, MD; Amrit K. Kamboj, MD; and Conor G. Loftus, MD

A 39-year-old woman presented to the clinic with an 8-month history of worsening constipation, abdominal pain, and intermittent episodes of hematochezia. On average, she reported having one bowel movement per week. Each bowel movement was associated with a prolonged restroom visit as a result of excessive straining. The passage of stool was frequently accompanied by excruciating tearing pain and visible bright red blood mixed with stool and on the toilet paper. The episodes of hematochezia occurred with approximately half of her bowel movements. She also reported abdominal pain that was worse in the evenings, exacerbated by movement and lifting, and alleviated by getting into the fetal position. At times, she experienced a sensation of incomplete evacuation and had to use her fingers to manually remove stool. In addition, she reported difficulty with urination and intermittent incontinence. She had not undergone a colonoscopy previously. Her medical history was notable for type 2 diabetes mellitus, hypertension, hyperlipidemia, gastroesophageal reflux disease, and obesity with a body mass index of 38 kg/m^2. She had no history of anemia. Her family history was notable for colorectal cancer in her maternal grandfather diagnosed at age 78 and small-bowel ischemia in her maternal uncle.

At presentation, the patient's vital signs were within normal limits, with a heart rate of 81 beats/min and blood pressure of 122/60 mm Hg. Physical examination revealed left lower quadrant tenderness to light palpation with normal bowel sounds and no peritoneal signs. Rectal examination revealed a heightened sphincter tone, and nonbleeding external hemorrhoids were present. Insertion of the examining finger was noted to be particularly painful for the patient. There was reduced perineal descent when the patient was asked to bear down as if she were having a bowel movement. Abdominal pain was elicited when the patient tensed her abdominal muscles by lifting her head and shoulders from the examination table.

Laboratory evaluation yielded the following results (reference ranges provided parenthetically): hemoglobin, 13.7 g/dL (12.0-15.5 g/dL); leukocytes, 8.8 × 10^9/L (3.5-10.5 × 10^9/L); platelets, 250 × 10^9/L (150-450 × 10^9/L); sodium, 139 mmol/L (135-145 mmol/L); potassium, 4.0 mmol/L (3.6-5.2 mmol/L); calcium, 9.1 mg/dL (8.9-10.1 mg/dL); fasting glucose, 106 mg/dL (70-140 mg/dL); creatinine, 0.82 mg/dL (0.6-1.1 mg/dL); and thyroid-stimulating hormone, 1.7 mIU/L (0.3-4.2 mIU/L). Urinalysis results were unremarkable.

1. Which *one* of the following is the *most likely* cause of rectal bleeding in this patient?

a. Diverticular bleed
b. Anal fissure
c. Hemorrhoids
d. Colorectal cancer
e. Angiodysplasia

Rectal bleeding is a relatively common problem in the general population. Its prevalence in the community, however, may be low because of patient underreporting. In fact, a cross-sectional analysis found that only one-third of those with rectal bleeding see a physician regarding this condition.[1] Although anorectal outlet bleeding may be secondary to benign conditions such as anal fissure or hemorrhoids, both of which may be associated with constipation, other more serious etiologies also exist. It is important for health care professionals to assess patients with anorectal outlet bleeding and use history and physical examination to determine the underlying diagnosis. The differential diagnosis of rectal bleeding is broad and includes hemorrhoids, anal fissures, diverticulosis, angiodysplasia, and colorectal cancers.

In general, diverticular bleeds usually present with painless hematochezia. Additionally,

See end of article for correct answers to questions.

Resident in Internal Medicine, Mayo Clinic School of Graduate Medical Education, Rochester, MN (S.B.H., A.K.K.); Advisor to residents and Consultant in Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN (C.G.L.).

the presentation is often acute and may be characterized by higher-volume bleeding. Our patient had a self-reported history of tearing pain associated with passage of stool and visible blood on the toilet paper and in the toilet after defecation. This presentation is strongly suggestive of anal fissure as the underlying disorder. An anal fissure is a tear in the anoderm distal to the dentate line.[2] Anal fissures represent a common anorectal problem and typically occur secondary to local trauma to the anoderm caused by the passage of hard stool. Hemorrhoids also classically present with painless bleeding, and patients often report stools covered with bright red blood. Physical examination, including careful inspection of the anal and perianal area for external hemorrhoids and digital examination for prolapsed internal hemorrhoids, is important for uncovering this diagnosis. Severe pain on insertion of the examining finger may be a clue to a diagnosis of anal fissure, as was the case in our patient. Colorectal cancer can present with a myriad of symptoms, including weight loss, altered bowel habits, hematochezia, and abdominal pain. Malignancy is less likely in this patient given her young age and absence of red flag symptoms such as weight loss. Lastly, angiodysplasia is commonly present in patients older than 60 years of age.[3] In contrast to our patient, bleeding associated with angiodysplasia is often painless.

Given the patient's symptoms of rectal bleeding, constipation, and abdominal pain, she was referred to gastroenterology for further evaluation.

2. Which *one* of the following is the *best* treatment approach for this patient's rectal bleeding?

a. Topical nitrate
b. Fiber alone
c. Botox injection
d. Fiber and topical nifedipine
e. Lateral internal sphincterotomy

Nonoperative management is the mainstay of treatment for anal fissures. Nonoperative therapies include warm sitz baths, psyllium fiber or other bulking agents, topical nitrates, calcium channel blockers, and botulinum toxin. The American Society of Colon and Rectal Surgeons recommends first-line treatment for anal fissures with nonoperative measures, as they have minimal to no adverse effects and good patient accessibility.[4] While surgery has been reported to be more effective for the treatment of chronic anal fissures, it is associated with more potential complications, including fecal incontinence.[5] Although topical nitrates are effective in decreasing resting anal pressures, their use is limited by adverse effects, including headaches and hypotension. Fiber therapy is effective in softening stools, which prevents repeated injury of a healing fissure; however, fiber is more effective when used in conjunction with a topical vasodilator. Botulinum toxin injection has been found to relax the internal and external anal sphincters, but it can often result in mild incontinence, acting as a "chemical sphincterotomy." Currently, the combination of a stool-bulking agent and a topical vasodilator is recommended for treatment of acute typical anal fissures. This approach is supported by a prospective study in which patients randomized to topical vasodilators in conjunction with warm sitz baths and a fiber-bulking agent had good results.[6] This combination therapy provides adequate relaxation of the internal anal sphincter and ensures the atraumatic passage of stool. Lastly, lateral internal sphincterotomy, as previously stated, can be considered if conservative measures fail. Otherwise, this approach is used sparingly because of its poor adverse effect profile.

In our patient, a combination of fiber and topical nifedipine was used. This treatment provided symptomatic relief, with immediate improvement in the pain she experienced during defecation.

3. Which *one* of the following is the *most likely* cause of this patient's abdominal pain?

a. Ulcerative colitis
b. Ischemic colitis
c. Abdominal wall pain
d. Diverticulitis
e. Solitary rectal ulcer

All of these diagnoses can present with abdominal pain. A thorough history and physical examination can aid in narrowing the differential diagnosis and help in deciphering between benign causes and more serious

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