

Ischemic Proctitis Presenting as Rectal Pain and Bloody Diarrhea with No Apparent Cause

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ABSTRACT

Acute ischemic proctitis is a rare condition usually resulting from severe vascular disease or an acute vascular occlusion. The diagnosis is made on endoscopy, and mortality rates approach 20–40%. Many patients will require a proctectomy as the definitive treatment, especially for gangrenous proctitis. We describe an unusual presentation of acute ischemic proctitis in a patient without preexisting vascular disease or other precipitants. Furthermore, our patient recovered entirely with conservative management and intravenous antibiotics alone. We review the existing literature on ischemic proctitis and highlight the need for future research to better diagnose and manage this rare condition.

INTRODUCTION

Ischemia of the rectum is rare because the rectum has excellent collateral blood supply from several arteries, including the superior rectal artery (branch of the inferior mesenteric artery), middle rectal artery (branch of the internal iliac artery), and inferior rectal artery (branch of the internal pudendal artery).^{1–3} Ischemic proctitis may be caused by acute vascular occlusion (usually after aortic surgery or radiologic intervention), severe vascular disease, or a low flow state.^{1,4,5} Other causes include radiation therapy, vasculitis, and myointimal hyperplasia of the mesenteric vein.^{6–8}

Patients often present with lower abdominal pain, cramping, and bloody diarrhea, making it difficult to differentiate from inflammatory bowel disease or infectious colitis. Some patients present with sepsis, hemodynamic instability, or rectal bleeding.⁹ While abdominal computed tomography (CT) with contrast can be suggestive of ischemic proctitis, the definitive diagnosis is made by colonoscopy with biopsies.¹⁰ Other confounding diagnoses such as infections must be excluded with stool samples.^{11,12} Abdominal CT with contrast or CT angiogram may be considered for patients with suspected underlying vascular disease, with recent intervention, or with unclear etiology; recent evidence suggests both diagnostic imaging tests have similar sensitivity.¹³ The treatment of ischemic proctitis is largely supportive but can include surgery if the patient develops gangrenous, transmural rectal ischemia or severe bleeding.¹⁴

CASE REPORT

A 60-year-old man presented to the hospital with severe suprapubic pain associated with a 1-week history of diarrhea consisting of mucous and blood. He first noticed the suprapubic pain after a game of squash. He had no similar episode in the past and denied any fevers, recent travel or sick contacts. He had an inguinal hernia

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Figure 1. Abdominal/pelvic CT with intravenous and oral contrast demonstrating continuous bowel ischemia, submucosal edema, and inflammatory stranding involving rectum (left) and distal sigmoid colon (right).

repair at age 35 and was not taking any medications. He was a lifetime non-smoker who consumed alcohol socially and denied illicit drug use. He was married with 1 daughter who has ulcerative colitis. His family history was otherwise unremarkable.

On admission, his temperature was 36.7°C, blood pressure 147/91 mm Hg, pulse rate 96 beats per minute and regular, and oxygen saturation 99% on room air. His abdominal exam revealed a non-distended abdomen that was tender only in his suprapubic region without peritoneal signs. Digital rectal examination caused perianal pain and revealed a small amount of blood on the finger. Initial blood work revealed an elevated white blood cell count 12.1×10^9 , lactate 2.0 mmol/L, and C-reactive protein 109 mg/L. The remainder of his blood work was within normal limits. Testing for c-ANCA and p-ANCA was negative, and stool culture and *Clostridium difficile* testing was negative. Abdominal CT revealed thickening of the rectosigmoid (Figure 1). Colonoscopy revealed severe edema, granularity, and friable mucosa extending continuously 25 cm from the rectum to the sigmoid and an otherwise normal colon (Figure 2). Stool cultures and *C. difficile* polymerase chain reaction were negative. Intravenous corticosteroids were initiated for presumed diagnosis of inflammatory bowel disease.

Over the next 2 days, the patient developed progressive perianal pain and abdominal distention. Abdominal x-ray revealed a large bowel obstruction, and magnetic resonance imaging of the pelvis showed rectosigmoid thickening but no other abnormality. Biopsies from the colonoscopy revealed ischemia (Figure 3). A repeat flexible sigmoidoscopy revealed a dusky and necrotic bowel extending 25 cm from the anal verge to the sigmoid colon (Figure 4). Intravenous ciprofloxacin and metronidazole were started immediately, and the intravenous steroids were discontinued. General surgery was

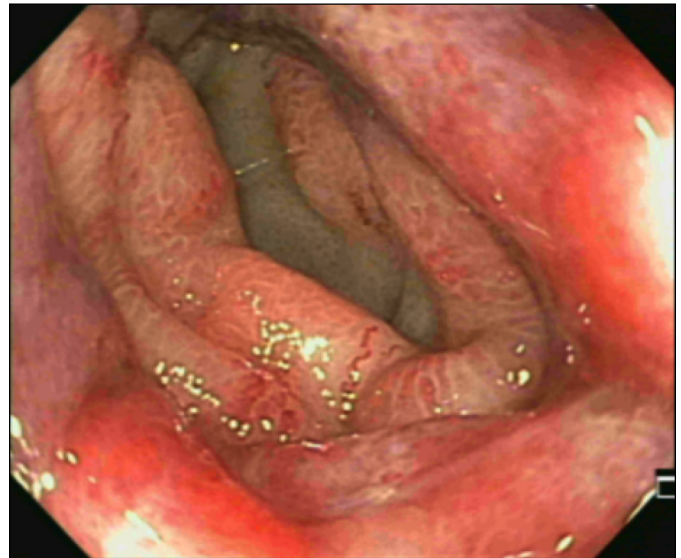


Figure 2. Endoscopy showing edematous and friable mucosa of the rectosigmoid.

consulted and a CT angiogram revealed patent vasculature (Figure 5). The patient was kept NPO and consented to a proctectomy in case of further deterioration.

Over the following few days, he began passing gas and liquid stool. He felt much better and was discharged home 1 week later. He completed 14 days of antibiotics, and 1 month later a flexible sigmoidoscopy revealed mucosal hypertrophy within the rectosigmoid without evidence of ischemia. Three months later the patient returned for a repeat flexible sigmoidoscopy with pencil-shaped stools and was found to have a rectal stricture, which was subsequently dilated. Biopsies from the

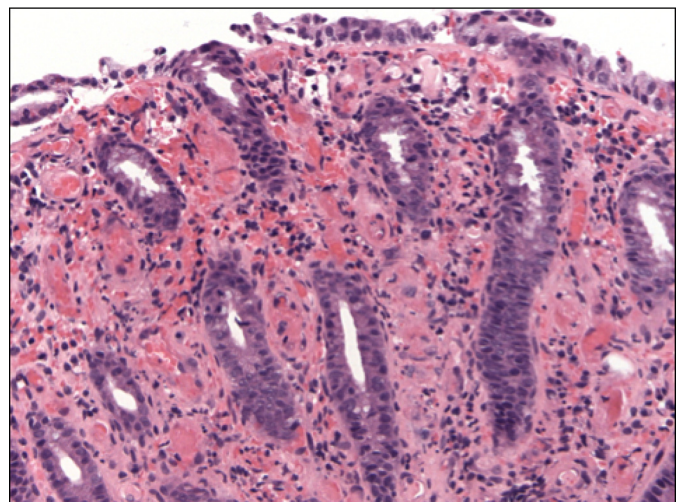


Figure 3. Hematoxylin and eosin stain (20x) of rectal biopsy showing withering crypts and reactive epithelial changes, mucosal congestion, and hemorrhage, consistent with ischemic etiology.

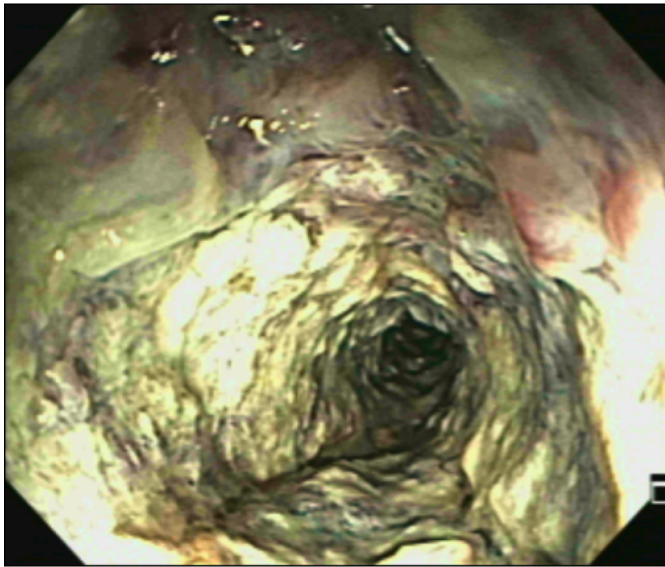


Figure 4. Endoscopic appearance of ischemia extending 25 cm into the sigmoid from the anal verge.

stricture confirmed reactive tissue and granulation. Six months later the patient was asymptomatic with no recurrent symptoms.

DISCUSSION

We present an unusual case of ischemic proctitis without a clear precipitant. There was no evidence of an occlusive arterial or venous thrombus seen on abdominal CT with contrast, nor was there any obvious precipitant to the ischemia. One potential mechanism to explain our patient's presentation is that of exercise-induced exertion followed by a subsequent low-flow state because the patient's symptoms began shortly after a game of squash.¹⁵ Importantly, however, the patient exercised regularly without similar symptoms, and ischemia of the rectum would be less likely than ischemic colitis of the sigmoid based upon vascular supply. In addition to the unclear etiology, it is also interesting to note that in many previous reports patients required proctectomy, while our patient



Figure 5. (A) CT arteriogram and (B) three-dimensional representation of the arterial supply to the rectosigmoid.

responded to broad-spectrum antibiotics leading to complete resolution of his symptoms.

This unique case highlights ischemic proctitis as an important consideration in patients presenting with rectal pain, even those without preexisting vascular disease or low-flow states. Other diagnoses such as infectious or inflammatory proctitis must be considered, and endoscopic and radiologic testing should be performed urgently. Surgical consultation is always warranted in these patients due to the high mortality rate in the literature. Certain patients who are hemodynamically stable without evidence of sepsis or severe bleeding may benefit from supportive management and antibiotics. Further research may examine other potential etiologies of ischemic proctitis and may be better at determining which patients require early surgical intervention compared with more conservative measures.

DISCLOSURES

Author contributions: All authors edited the manuscript. KY Fortinsky wrote the manuscript. F. Quereshy provided the radiologic images. S. Serra provided the histological slides. F. Habal provided the endoscopic images and is the article guarantor.

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Informed consent was obtained for this case report.

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