



Isolated Cecal Necrosis Mimicking a Colonic Mass

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ABSTRACT

Isolated cecal necrosis (ICN) is a rare form of ischemic colitis that can mimic conditions such as appendicitis, malignancy, or diverticulitis. Most cases of ICN have been identified in patients with significant comorbidities that increase risk of vascular disease. We present a case of ICN mimicking a mass lesion in an elderly patient with few comorbid conditions. Although computed tomography was concerning for colonic mass, diagnostic colonoscopy revealed ischemic colon. The patient underwent right hemicolectomy, and pathology confirmed ICN. It is important to recognize conditions ICN can mimic, understand ICN can present without acute abdomen, and consider ICN in the differential diagnosis even in relatively healthy patients without a history of vascular disease.

KEYWORDS: isolated cecal necrosis; ischemic colitis; abdominal mass; vascular disease

INTRODUCTION

Isolated cecal necrosis (ICN) is a rare form of ischemic colitis that can mimic other causes of abdominal pain including appendicitis, malignancy, and diverticulitis. The pathophysiology of the ICN is lack of blood flow to the cecum, either through thrombosis or relative hypotension.^{1,2} It commonly occurs in patients with multiple comorbidities including end-stage renal disease or chronic kidney disease, hyperlipidemia, hypertension, diabetes, and cardiovascular disease.^{3,4} In this report, we present a case of ICN mimicking a colon mass in an elderly patient with few medical comorbidities.

CASE REPORT

Our patient is a 77-year-old woman with medical history of hypertension, hyperlipidemia, and obesity. She presented to the emergency department with a progressive sharp and stabbing pain in the right lower quadrant. The pain had been mild and intermittent for the past month but became acutely severe and constant days before presentation. Associated symptoms included nausea, vomiting, intermittent melena, and a 5-lb weight loss over the last month. Social history was negative for tobacco use.

On initial presentation, she was afebrile and tachycardic with a normal blood pressure. Abdominal examination was significant for tenderness to palpation in the right lower quadrant. No rebound, guarding, or rigidity was found. Electrocardiogram showed sinus tachycardia with first-degree atrioventricular block.

Laboratory test results revealed hemoglobin of 12.8 g/dL, leukocytosis of 13 WBC/ μ L, creatinine of 1.0 mg/dL, erythrocyte sedimentation rate elevated at 88 mm/hr, C-reactive protein elevated at 54 mg/L, lactic acid was normal at 1.9 mg/dL, and a normal carcinoembryonic antigen of 2.2 ng/mL.

Abdominal computed tomography revealed a 5.2 \times 5.6 \times 5.5 cm lesion in the right lower quadrant concerning for a colonic mass (Figure 1). Given initial imaging was concerning for malignancy and the physical examination was without findings of acute abdomen, diagnostic colonoscopy was pursued for tissue analysis. Colonoscopy revealed a large cecal mass, likely ischemic, with pneumatosis and a surrounding area of necrosis (Figures 2 and 3).

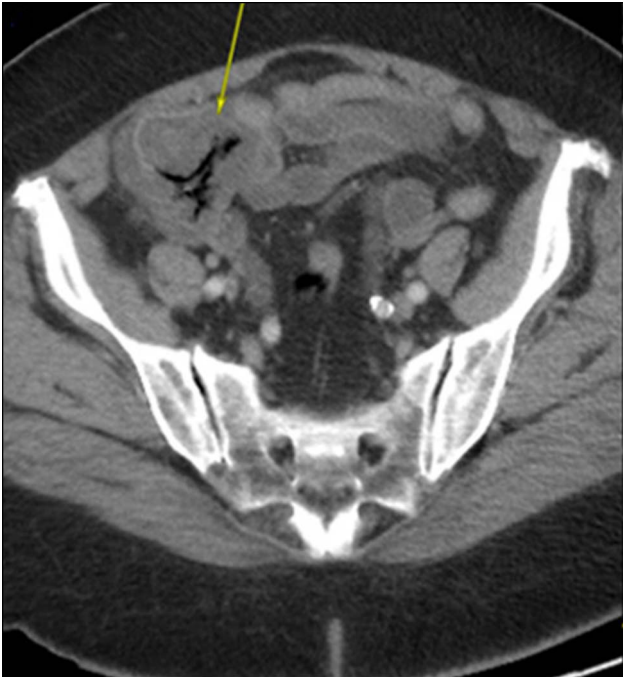


Figure 1. Large mass-like lesion in the right lower quadrant concerning for malignancy (see arrow for location).

Biopsies exhibited multiple benign fragments of colonic mucosa with necrosis, ulceration, hyaline fibrosis, inflammation, and crypt miniaturization consistent with ischemic colitis. There was no evidence of dysplasia or malignancy.

The patient underwent right hemicolectomy with an ileocolonic anastomosis. Surgical pathology demonstrated extensive wall necrosis and changes consistent with ischemia (Figures 4 and 5). No immediate postoperative complications were observed.

Postoperative course was uncomplicated. Diet was advanced, and return of bowel function was achieved. On follow-up with

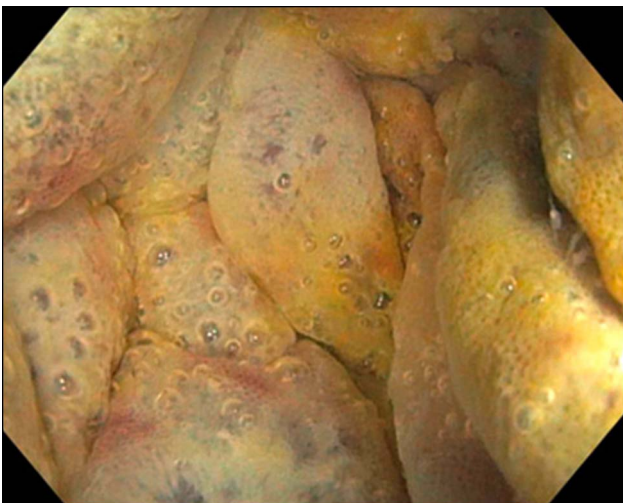


Figure 2. Ischemic-appearing mucosa with ulceration and pneumatosis.

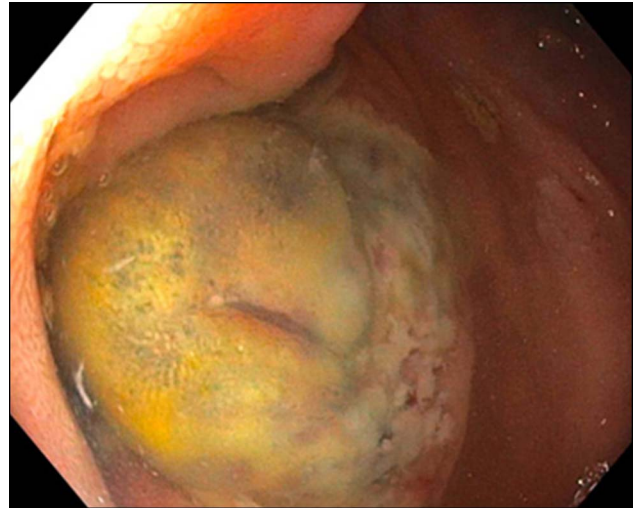


Figure 3. Best exemplifies the mass-like appearance of the cecal lesion.

colorectal surgery in the outpatient clinic, she was without abdominal pain, fever, chills, and her abdominal incision was well healed. She remains without complication on visits to her primary care physician to date.

DISCUSSION

ICN is believed to occur secondary to occlusive or nonocclusive ischemic events to the cecum.^{5,6} Occlusive events are primarily thrombotic, whereas nonocclusive events cause ischemia through hypotension, such as dialysis sessions, shock, atrial fibrillation, or heart failure.^{5,6,7} Our case demonstrates that ICN

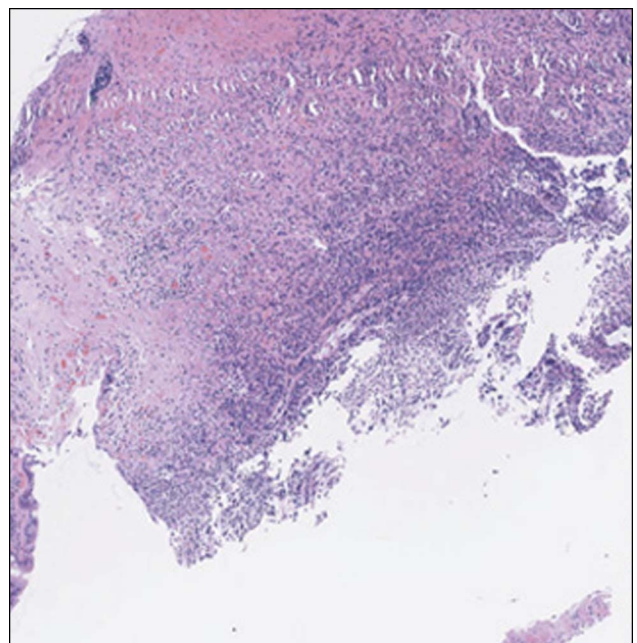


Figure 4. Biopsy from cecum showing extensive wall necrosis and changes consistent with ischemia.

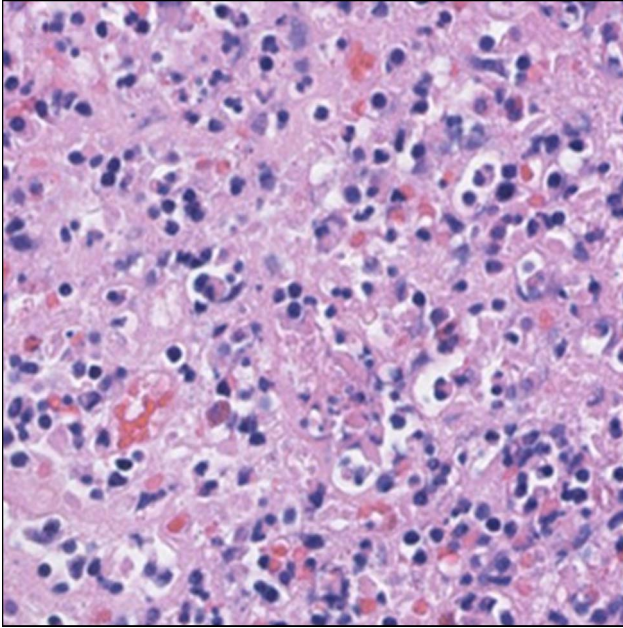


Figure 5. Higher magnification of same area as Figure 4 showing severe necrosis and active inflammation consistent with ischemia.

can develop in patients without common preceding events, leading to hypotension or apparent thrombosis on pathology.

With the underlying mechanism of ICN being vascular perfusion, patients presenting with this condition typically have significant vascular disease, end-stage renal disease or chronic kidney disease, hypertension, hyperlipidemia, and diabetes.^{3,4} Although our patient has obesity, hypertension, and hyperlipidemia as risk factors for vascular disease, she has no history of coronary artery disease, peripheral artery disease, renal dysfunction, tobacco use, or family history of myocardial infarction or vascular disease. ICN should be considered on the differential diagnosis in all patients with medical comorbidities that increase the risk of vascular disease, even when well controlled or limited in number.

The presenting features of ICN include right lower-quadrant pain, guarding, vomiting, leukocytosis, lactic acidosis, and an elevated C-reactive protein.^{5,8} This constellation of symptoms and common findings on imaging can lead to misdiagnosis of ICN as appendicitis, malignancy, or diverticulitis.⁹ Although ICN can present with acute abdomen, a lack of peritonitis on examination does not rule out ICN as the diagnosis, which is exemplified by our case.¹⁰ It is important to promptly recognize ICN as a cause of right lower-quadrant pain because delayed

treatment with surgical intervention is known to increase mortality.⁸

DISCLOSURES

Author contributions: K. Janike wrote, approved of the article, and is the article guarantor. A. Pan and A. Shuja revised the article for intellectual content. P. Kheirka assisted with pathology images, descriptions, and revised article for intellectual content.

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Informed consent was obtained from the patient for this case report.

Previous presentation: This case was presented at the American College of Gastroenterology Annual Scientific Meeting, October 26, 2021, Las Vegas, Nevada.

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