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IMAGE | ENDOSCOPY

Severe Cytomegalovirus Infection Masquerading as Recurrent Ischemic Colitis in a Patient with End-Stage Renal Disease

Ruiyao Huang, MD[1], Amine Benmassaoud, MD[2], and Serge Mayrand, MD[2]

[1]*Division of Internal Medicine, McGill University Health Centre, Montreal, Canada*
[2]*Division of Gastroenterology, McGill University Health Centre, Montreal, Canada*

CASE REPORT

A 44-year-old man known to have diabetes and chronic kidney disease on hemodialysis presented with hematochezia, acute abdominal pain, fever, and leukocytosis. Abdominal computed tomography (CT) demonstrated changes consistent with isolated right colon ischemia. He was treated conservatively with intravenous fluids and antibiotics, and then was discharged after symptomatic improvement.

He returned with the same symptoms 10 days later. Abdominal CT was repeated. Colonoscopy showed circumferential ulcerated mucosa with grayish discoloration and sloughing of the mucosa starting at the hepatic flexure and extending proximally, potentially due to ischemic colitis (Figure 1). There was a sharp demarcation between the normal and ulcerated mucosa. A colonic biopsy at the edge of the demarcation showed non-specific small ulcerations without any indication of cytomegalovirus (CMV). Human immunodeficiency virus screening was negative. The patient improved again with conservative management. No CMV polymerase chain reaction was done given the patient's clinical improvement.

He returned 3 days later with a third episode of similar presentation and hemorrhagic shock. Repeat abdominal CT showed persistent isolated right-colon ischemia with new pneumatosis

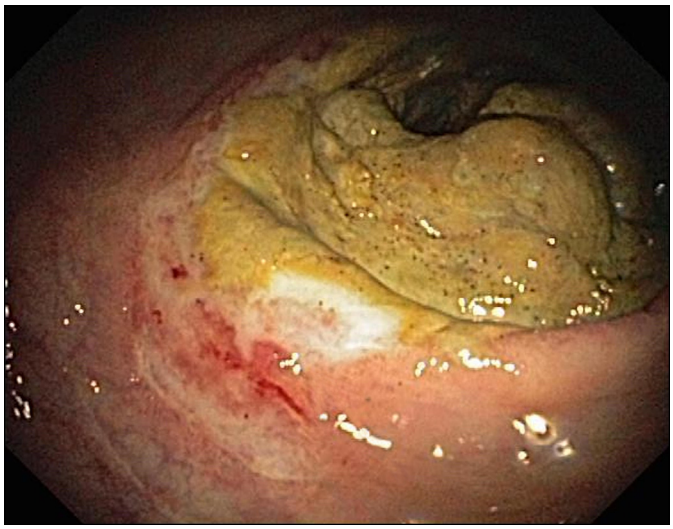

Figure 1. Sharp area of demarcation with circumferentially ulcerated and sloughing mucosa.

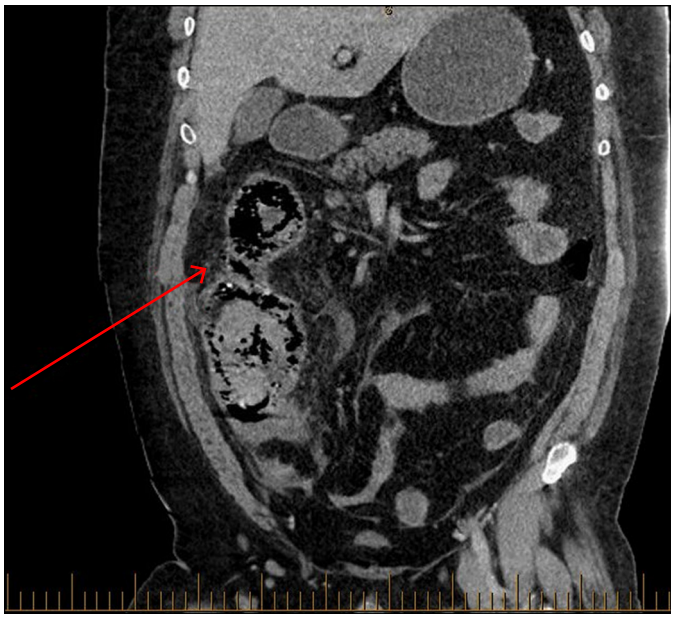

Figure 2. Presence of pneumatosis intestinalis with persistent isolated right-colon ischemia.

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Correspondence: Dr. Serge Mayrand, 1650 Cedar Ave, Suite C7-200, Montreal General Hospital, McGill University Health Centre, Montreal, Canada H3G 1A4 (sergemayrand@gmail.com).

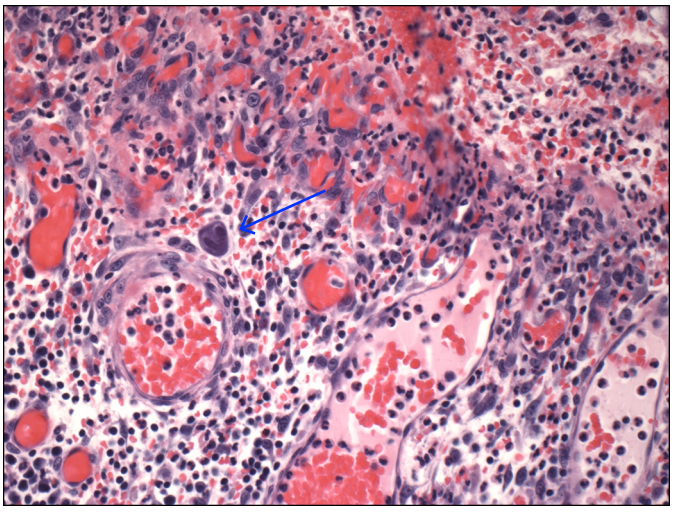

Figure 3. Colon resection specimen showing granulation tissue within ulcer base, important inflammatory infiltrate, and the presence of a CMV-infected cell (arrow) with characteristic owl's eye appearance (hematoxylin and eosin stain, 400× magnification).

intestinalis (Figure 2). Given his failure to improve on aggressive medical management, including a high dose of vasopressors, an urgent right hemicolectomy was performed. On pathology, multiple CMV-infected cells were identified with ulcerations and perforation, consistent with severe CMV colitis (Figure 3). Intravenous ganciclovir was initiated. The patient completed a 3-month course of ganciclovir and improved clinically without evidence of recurrence.

Isolated right-colon ischemia is an uncommon form of ischemic colitis, but it occurs more frequently in patients with significant atherosclerosis and hemodialysis. Despite initial improvement, the patient's symptomatic recurrence was initially attributed to his severe vasculopathy coupled with fluid shifts caused by ongoing hemodialysis. Retrospectively, it is believed that the initial episodes were also caused by CMV infection in an immunocompetent host. The negative biopsy result is explained by the amount of non-specific ulceration camouflaging the CMV-infected cells. In a review of the literature of 14 cases with end-stage renal disease and CMV gastrointestinal disease, 72% presented with lower gastrointestinal bleeding, colonoscopy showed ulceration or polypoid lesions, with an associated mortality rate of 35%.[1] Two other cases of CMV colitis mimicking ischemic colitis have been previously described.[2,3] A meta-analysis of outcome of CMV colitis in immunocompetent hosts demonstrated that age >55 years, male sex, and immune-modulating conditions may adversely influence survival.[4] CMV colitis should be suspected in atypical cases of ischemic colitis. Early diagnosis may avoid significant morbidity.

DISCLOSURES

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