Title

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CASE IMAGE

A case of cytomegalovirus colitis initially misdiagnosed as colonic ischemia in an immunocompetent Japanese woman

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Key Clinical Message

Cytomegalovirus colitis should be considered in a patient presenting with bloody stool even among immunocompetent patients.

KEYWORDS

bloody diarrhea, CMV, colitis, cytomegalovirus, immunocompetent

1 | CASE ILLUSTRATED

A 74-year-old woman with a past medical history of coronary artery disease status post coronary artery bypass graft, aortic valve replacement for aortic stenosis, cecal carcinoma status post ileocecal resection, and hepatocellular carcinoma status post left medial segment liver resection who presented with a 2 week history of abdominal pain and bloody diarrhea. She was taking aspirin 100 mg and warfarin 1.75 mg daily. She denied smoking and alcohol use. Vital signs were unremarkable, but tenderness of the left lower abdomen was noted. Computed tomography of her abdomen showed edematous thickening of the wall of the descending colon (Figure 1). The stool culture revealed the presence of non-pathogenic Escherichia coli, and the test for clostridioides difficile toxin was negative. Given her extensive cardiovascular disease, colonic ischemia was suspected. Her diarrhea subsided slightly over the next few days with bowel rest and intravenous fluid and she was discharged on the seventh day. However, severe diarrhea restarted soon after her discharge, and she was further evaluated as an outpatient. Stool culture

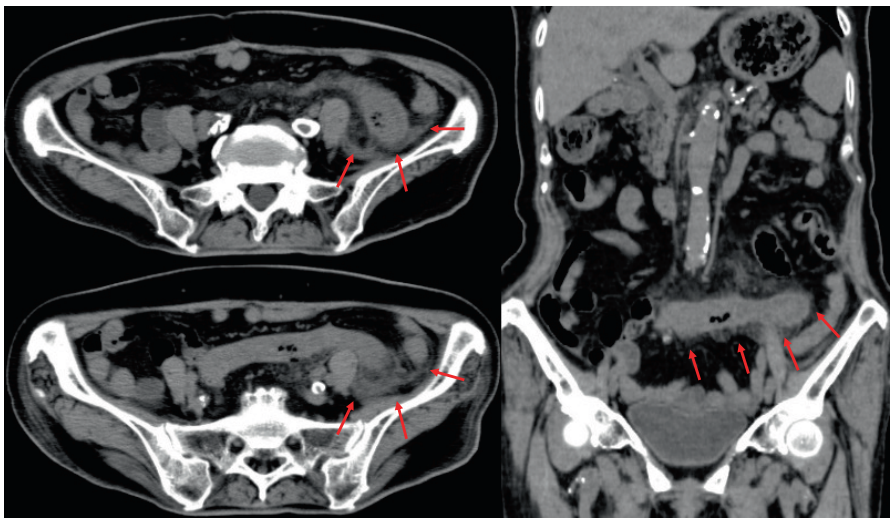

FIGURE 1 Computed tomography of her abdomen showed edematous thickening of the wall of the descending colon.

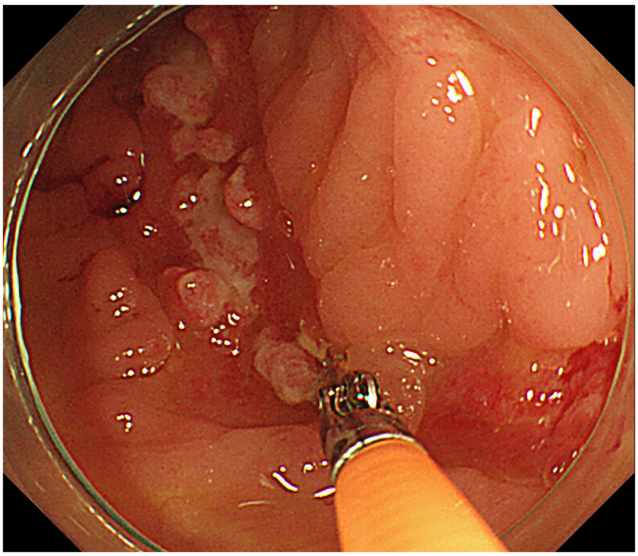

FIGURE 2 Multiple ulcers were observed in the transverse and sigmoid colon, and biopsies were performed.

was negative. Colonoscopy demonstrated multiple ulcers in the transverse, descending, and sigmoid colon (Figure 2), and histopathology suggested cytomegalovirus (CMV)-infected cells with immunohistochemistry stain (Figure 3). CMV antigenemia assay and human immunodeficiency virus were negative. CMV colitis was diagnosed, and valganciclovir was initiated with significant improvement in her symptoms.

CMV is a member of the herpesvirus family. The proportion of humans with prior CMV infection varies worldwide, with seroprevalence rates among women of reproductive age ranging between 45% to 100%.[1] CMV can cause a wide range of manifestations potentially involving the gastrointestinal tract, lungs, retina, brain, adrenal glands, liver, and spleen. While CMV infection is common in normal adults and is generally asymptomatic, it can be symptomatic in patients with defective cell-mediated immunity like HIV/AIDS, those who have undergone organ transplantation, and those receiving immunosuppressive therapy or chemotherapy.[2] Though CMV colitis is generally diagnosed in patients who are immunocompromised, CMV colitis in immunocompetent patients has also been reported.[3] Common symptoms of CMV colitis are fever, abdominal pain, diarrhea, and bloody stool. CMV colitis can be diagnosed by visualization of characteristic lesions on endoscopy and intranuclear or cytoplasmic inclusions on histopathology.[4] CMV gastrointestinal disease cannot be excluded based on a negative plasma or whole-blood PCR result. CMV culture of stool specimens is less reliable because a positive culture may represent either asymptomatic viral shedding or disease.[5] Oral valganciclovir can be used for patients with CMV colitis who can tolerate and absorb oral medications, while severe disease requires intravenous ganciclovir. CMV colitis should be considered in a patient presenting with bloody stool even among immunocompetent patients.

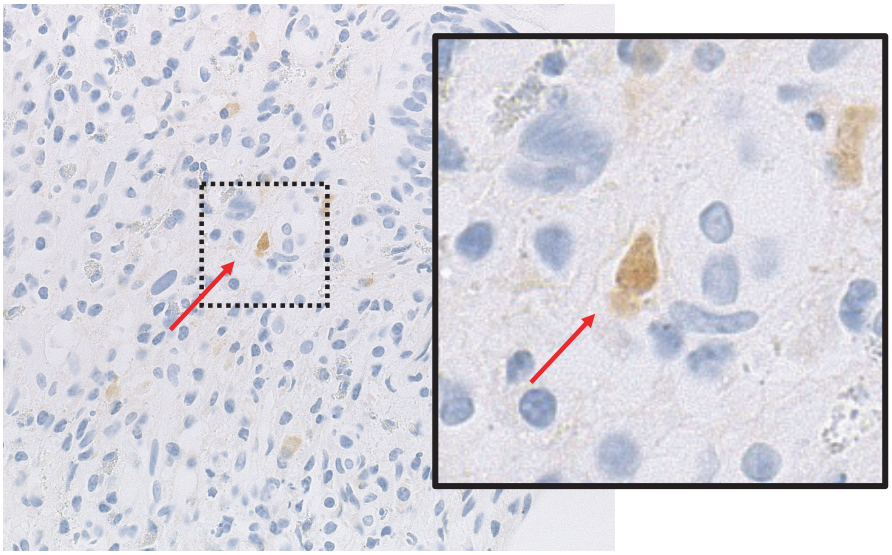

FIGURE 3 Infiltration of inflammatory cells, primarily consisting of plasma cells is seen along with partial granulation tissue formation and distortion of glandular ducts. Although there was no evidence of intranuclear inclusions, a few numbers of CMV-specific immunohistochemical stain-positive cells were observed. (magnification x 400).

AUTHOR CONTRIBUTIONS

Atsuro Hamano: Writing – original draft. **Shunsuke Harada:** Writing – review and editing. **Takaaki Kobayashi:** Writing – review and editing. **Sandra Moody:** Writing – review and editing. **Akihito Yoshida:** Writing – review and editing.

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FUNDING INFORMATION

None.

CONFLICT OF INTEREST STATEMENT

No disclosure.

DATA AVAILABILITY STATEMENT

The data will be made available by the corresponding author upon reasonable requests.

ETHICS STATEMENT

The local ethical committee approval does not apply in this case.

CONSENT

The patient's written consent was obtained.

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