

## Introduction

Cytomegalovirus (CMV) is a ubiquitous virus of the human herpesviruses that primarily affects immunocompromised individuals, including solid organ transplant recipients, patients with human immunodeficiency virus (HIV) infection, and those receiving immunosuppressive therapy. Estimates suggest a seroprevalence of roughly 83% in the general population globally. In the immunocompetent population, CMV infection will generally lead to no sequelae. CMV colitis in immunocompetent patients is rare and can pose a diagnostic challenge due to atypical presentations. The most common presentation of CMV colitis is that of a reactivation of latent infection in the immunosuppressed population<sup>1</sup> while those infections in immunocompetent patients are thought to stem from primary infection. This case report aims to increase awareness of CMV colitis in immunocompetent individuals and emphasize the need for a comprehensive diagnostic approach.

## Case Report

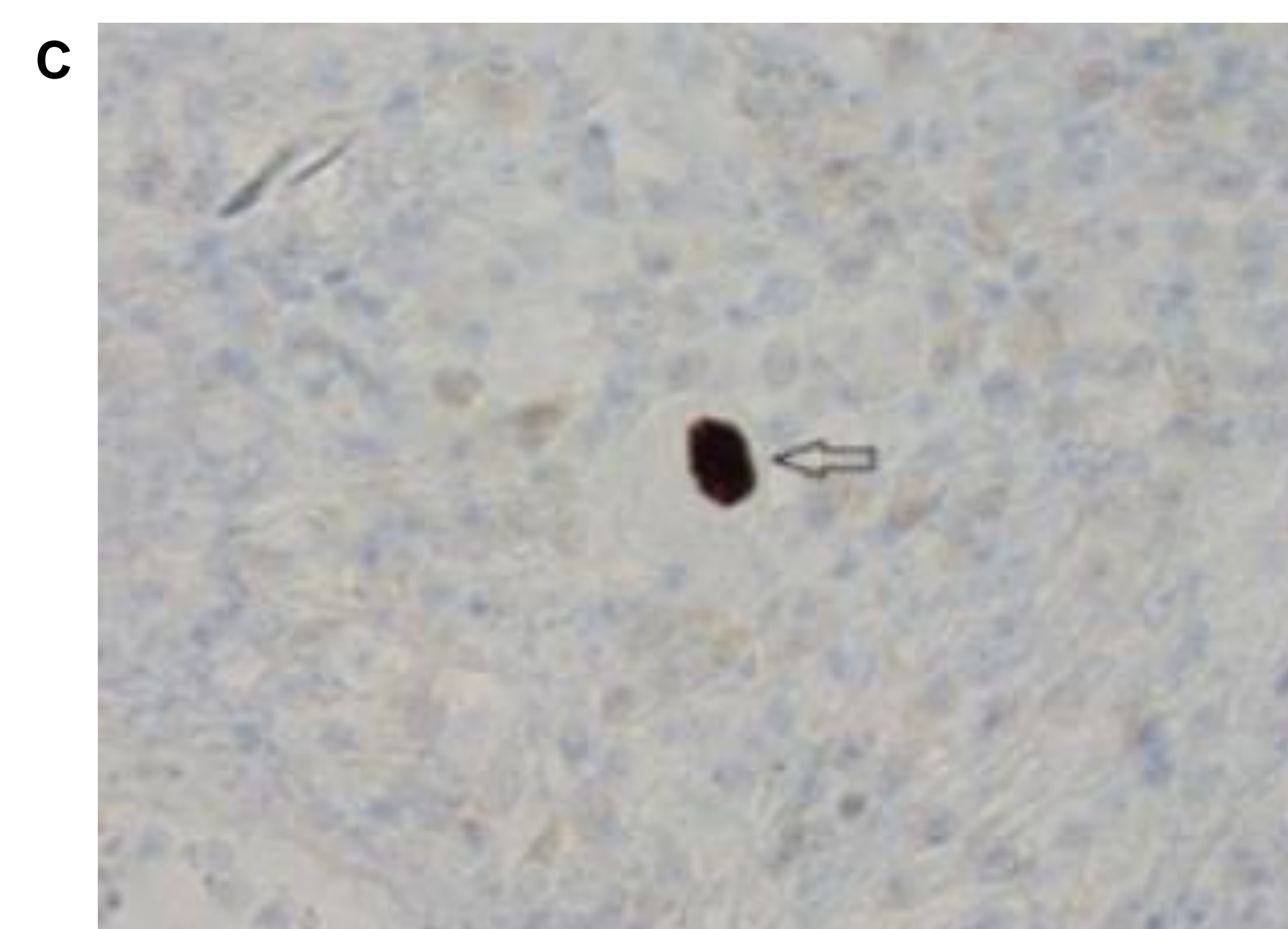
A 75-year-old female with a past medical history significant for type two diabetes mellitus, chronic kidney disease, chronic anemia, hypertension, and left sided breast cancer (in remission following radiation and resection) presented with altered mental status and hypoglycemia. She had been experiencing bowel and bladder incontinence but reported no abdominal pain, vomiting, constipation, or diarrhea. Physical exam revealed an abdomen that was soft without tenderness or guarding as well as normoactive bowel sounds. During her treatment course she developed severe diarrhea necessitating use of a rectal Foley catheter. The ensuing days revealed worsening anemia with bright red blood per rectum prompting endoscopy.



**Fig. A.** Ischemic changes throughout the rectum with little normal appearing tissue and clotted blood

**Fig. B.** Ischemic changes as noted in figure A

Endoscopy findings consisted of ischemic bowel, rectal ulcer, and diverticulosis (*fig. A-B*). A biopsy that was obtained revealed colonic mucosa with granulation tissue, mixed acute and lymphoplasmacytic inflammation, and scattered stromal cells with reactive changes. A CMV immunostain was performed that ultimately resulted positive for CMV (*fig. C*). The diagnosis of CMV colitis complicating newly diagnosed Crohn disease in an immunocompetent patient was established based on the clinical presentation, endoscopic findings, histopathology, and molecular testing (including a positive *saccharomyces cerevisiae* IgG and IgA).



**Fig. C.** Immunohistochemical analysis showing positive nuclear staining for cytomegalovirus in an infected cell

## Discussion

- Diagnosis of CMV colitis in these immunocompetent individuals can be challenging due to the absence of typical risk factors and atypical clinical presentations.
- In this case, continued rectal bleeding and requirement of multiple transfusions of PRBCs were the predominant features, without significant immunosuppression or other predisposing factors.
- A high index of suspicion, comprehensive evaluation, and appropriate histopathological and molecular testing are crucial for an accurate diagnosis.
- CMV infection complicating IBD, specifically Crohn, has been estimated to be 0.53-4%.<sup>4</sup> However, these statistics are largely based on new CMV infections in prior IBD diagnoses on appropriate medical therapy.
- While the exact mechanism of CMV colitis in immunocompetent patients is still unknown, *Lee et. al* postulated that pre-existing IBD could create an environment favorable for CMV due to the destruction of colonic mucosa, potentially leading to a “local” immunosuppression.
- It is suggested that proliferation of vascular endothelial cells leads to vasculitis and small vessel thrombosis with local ulceration, ultimately causing ischemic colitis, a pathology observed in this patient.<sup>3</sup>
- In this case, we observe a co-diagnosis of CMV colitis and Crohn disease in a previously undiagnosed patient and hope to bring awareness to its rarity and diagnostic approach.

## References

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