

## Case Report

# Cytomegalovirus Colitis Presenting as a Rectal Mass

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ABSTRACT

Cytomegalovirus (CMV) is a common cause of colitis, particularly in immunosuppressed patients. Rarely, CMV can present as a mass lesion that endoscopically appears consistent with adenocarcinoma. There are no reported cases of a CMV mass lesion inducing rectal prolapse. We present a case of CMV colitis presenting as a rectal mass mimicking adenocarcinoma and causing rectal prolapse in an immunosuppressed female.

**KEYWORDS:** *Cytomegalovirus, rectal mass, rectal prolapse*

## INTRODUCTION

Cytomegalovirus (CMV) commonly causes gastrointestinal lesions, particularly in immunosuppressed patients or in patients with inflammatory bowel disease. Most commonly, these lesions present as ulcerations or erosions.<sup>[1]</sup> Rarely, CMV colitis can present as a discrete mass that grossly mimics adenocarcinoma.<sup>[2-4]</sup> Even more uncommon, and never reported before, is CMV colitis presenting as a rectal mass that induces rectal prolapse. We present a case of CMV colitis presenting as a mass lesion leading to rectal prolapse, in a patient on immunosuppression.

## CASE REPORT

A 59-year-old female was seen in our gastroenterology clinic for rectal bleeding and a sensation of a “mass” protruding through the anus. The patient received a heart transplant 14 years prior in the setting of ischemic cardiomyopathy and was taking cyclosporine, mycophenolate, and prednisone for immunosuppression. She was also taking valganciclovir 500 mg/day for CMV prophylaxis. Physical examination was notable for intermittent full-thickness protrusion of the rectum compatible with rectal prolapse. Laboratory assessment was notable for an elevated carcinoembryonic antigen (CEA) of 6.6 ng/mL. Polymerase chain reaction of the blood was negative for CMV.

A colonoscopy was performed, which demonstrated a 2 cm mass in the rectum [Figure 1]. Endoscopically, the lesion was most concerning for rectal adenocarcinoma. A biopsy was performed.

Pathology of the mass demonstrated severe active colitis with ulceration and viral cytopathic change in the endothelial and epithelial cells [Figure 2]. An immunohistochemical stain for CMV was positive [Figure 3]. There was no evidence of malignancy. These findings were consistent with a diagnosis of CMV colitis.

The patient was started on valganciclovir 450 mg daily for CMV colitis. Follow-up flexible sigmoidoscopy revealed that the prior mass had healed. There was note of punctate erythema but biopsies were negative [Figure 4]. A repeat biopsy demonstrated reduced inflammation with an absence of CMV-infected cells. With resolution of the mass and prevention of constipation, the patient's symptoms of rectal prolapse also significantly improved. After 14 months, with both radiographic and pathologic resolution of her infection, her valganciclovir was discontinued.

## DISCUSSION

The most common gastrointestinal lesions from CMV include ulcerations, erosions, perforations, hemorrhage, and inflammatory pseudotumors.<sup>[1]</sup> Rectal prolapse is a rare manifestation of CMV colitis, which has previously been reported only once in a child with HIV.<sup>[5]</sup> CMV colitis presenting as a rectal mass that mimics rectal adenocarcinoma is also a rare phenomenon. There are few reported cases in the literature.<sup>[2-4,6]</sup> In these

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**How to cite this article:** Cohen AJ, Kumar NL, McNabb-Baltar JY. Cytomegalovirus colitis presenting as a rectal mass. *J Dig Endosc* 2017;8:137-9.

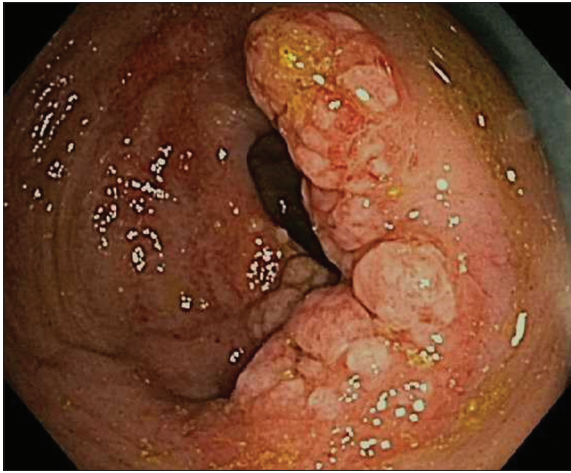
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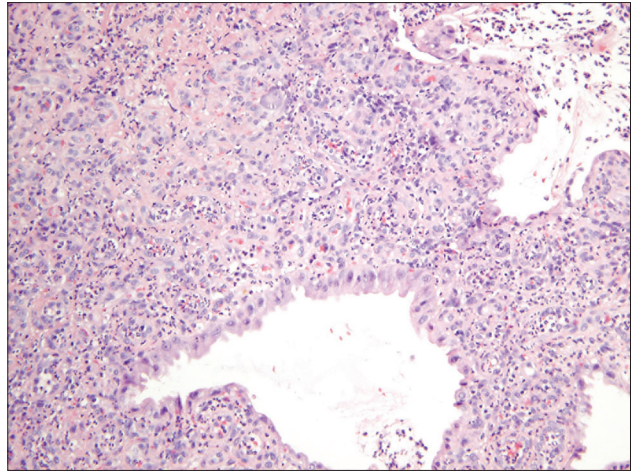


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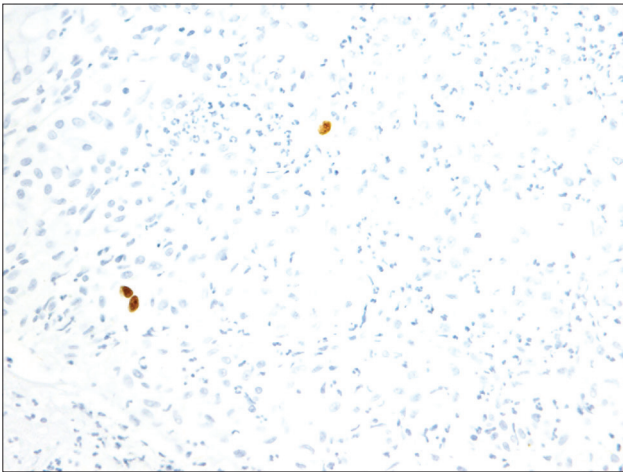
**DOI:** 10.4103/jde.JDE\_45\_16



**Figure 1:** Colonoscopy demonstrating a 2 cm circumferential mass in the rectum



**Figure 2:** Rectal mass biopsy stained with Hematoxylin and Eosin demonstrating severe active colitis and viral cytopathic change in the epithelial and endothelial cells



**Figure 3:** Immunohistochemical stain for Cytomegalovirus demonstrating positive cells infected with Cytomegalovirus



**Figure 4:** Follow-up flexible sigmoidoscopy 11 months after diagnosis demonstrating resolution of the mass with surrounding biopsy-negative punctate erythema

documented cases, as in our patient, initiation of antiviral therapy led to regression of the rectal mass. This is the first report of CMV colitis presenting as a rectal mass and leading to rectal prolapse.

Immunosuppression is a well-documented risk factor for CMV colitis with HIV/AIDS or transplantation being the two greatest risk factors.<sup>[1]</sup> There are reports of patients with HIV presenting with discrete gastrointestinal mass-like lesions caused by CMV.<sup>[6]</sup> As noted above, our patient was on a multidrug immunosuppressive regimen to prevent transplant rejection.

As opposed to CMV infection, which is diagnosed by isolating CMV DNA from the serum, CMV disease is defined as clinical findings or organ dysfunction with evidence of CMV infection.<sup>[7]</sup> CMV prophylaxis has been shown to be effective at reducing the rates of CMV disease particularly in donor positive, recipient negative heart transplant patients.<sup>[7,8]</sup> While controlled

studies are lacking, meta-analyses have shown that universal prophylaxis can prevent between 58% and 80% of cases of CMV disease. The ideal agent, dose, and duration are not agreed upon; however, valganciclovir has been shown to be effective in heart-transplant patients.<sup>[9,10]</sup> Despite low-dose prophylaxis, our patient still presented with clinical evidence of CMV disease, which underscores the risk of developing the disease even with preventive treatment. For treatment of established CMV disease, IV ganciclovir and oral valganciclovir have been shown to be equally effective in transplant patients.<sup>[9]</sup>

Our patient also presented with a mild elevation of the CEA tumor marker. Benign conditions of the gastrointestinal tract, including ulcerative colitis and colonic polyps, are associated with mild CEA elevations.<sup>[11]</sup> Relevant to our case, a similar patient

with CMV colitis presenting with a colonic mass also demonstrated a mild CEA elevation.<sup>[4]</sup>

In summary, we present a case of a patient on chronic immunosuppression with rectal prolapse who was found to have a rectal mass on colonoscopy, with an endoscopic appearance initially concerning for malignancy. However, pathology confirmed CMV colitis as the etiology, and the mass has resolved with antiviral therapy.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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