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Case Report

A Rare Case of Cytomegalovirus Colitis Mimicking Colon Adenocarcinoma in an Immunocompetent Patient

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Abstract

Cytomegalovirus (CMV) colitis is classically seen in immunocompromised individuals, such as those with HIV, organ transplants, or receiving immunosuppressive therapy. It is exceedingly rare in immunocompetent patients and can pose a diagnostic challenge, especially when it presents as a mass-like lesion mimicking colon cancer. We report a case of a 78-year-old immunocompetent male who presented with hematochezia and was found to have a bleeding cecal mass initially suspicious for adenocarcinoma. Subsequent histopathology revealed CMV colitis. This case emphasizes the importance of considering CMV colitis in the differential diagnosis of colonic masses, even in immunocompetent hosts.

More Information

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Keywords: Cytomegalovirus (CMV); CMV colitis; Immunocompetent; Colon adenocarcinoma; Histopathology; Differential diagnosis; Antiviral therapy; Colonic mass; Cecal mass; Ganciclovir; Valganciclovir; Inclusion bodies; Mass-like lesion

Introduction

Cytomegalovirus (CMV), a DNA virus in the Herpesviridae family, is a common pathogen that typically remains latent in immunocompetent individuals. In immunocompromised populations, such as those with AIDS, transplant recipients, or patients on immunosuppressants, CMV can reactivate and lead to significant morbidity, particularly in the gastrointestinal tract. CMV colitis most frequently presents with abdominal pain, diarrhea, and hematochezia and is associated with mucosal ulceration and inflammation. However, CMV colitis in immunocompetent patients is rare and often misdiagnosed. Even more uncommon is its presentation as a colonic mass mimicking adenocarcinoma. Here, we present an unusual case of CMV colitis presenting with a bleeding, mass-like lesion in the cecum in an elderly immunocompetent male.

Case presentation

A 78-year-old male with a past medical history of heart failure with preserved ejection fraction, benign prostatic hyperplasia (BPH), and gastroesophageal reflux disease (GERD) presented with one month of hematochezia and unintentional weight loss of approximately 10 pounds. He denied fever, recent antibiotic use, alcohol or illicit drug use, or any sick contacts. There was no history of steroid or immunosuppressive medication use. He had no personal or family history of gastrointestinal or neurological diseases and had never undergone a colonoscopy or upper endoscopy before.

On admission, the patient's vital signs were stable. Laboratory evaluation was notable for microcytic anemia with a hemoglobin of 10 g/dL. Basic metabolic panel and liver enzymes were within normal limits.

He was started on a proton pump inhibitor (PPI) drip and underwent esophagogastroduodenoscopy (EGD), which revealed Barrett's esophagus (C2M4) without dysplasia; random gastric and duodenal biopsies were normal. A colonoscopy showed a bleeding, ulcerated mass in the cecum, which appeared suspicious for malignancy. Biopsies of the lesion demonstrated granulation tissue, inflammation, and CMV inclusion bodies. CMV staining was positive, and there was no histological evidence of malignancy. Blood CMV serologies were positive, and a CT abdomen/pelvis was unremarkable. HIV testing was negative, and the patient's CD4 count was within normal limits, confirming immunocompetence.

He was diagnosed with CMV colitis and started on intravenous ganciclovir with improvement in symptoms. He was later transitioned to oral valganciclovir to complete the treatment course. The patient was referred to infectious disease for continued management and is scheduled for a repeat colonoscopy to assess for resolution of the lesion.

Table 1: Comparison Table.

Feature	CMV Colitis	Colon Adenocarcinoma
Etiology	Viral (CMV infection)	Malignant neoplasm of epithelial origin
Typical Host	Immunocompromised (rare in immunocompetent)	Any adult (increased risk with age)
Clinical Presentation	Diarrhea, abdominal pain, hematochezia	Anemia, weight loss, and changes in bowel habits
Endoscopic Appearance	Ulcerated, inflamed, or mass-like lesion	Mass lesion, often ulcerated or obstructive
Histopathology	Inclusion bodies, granulation tissue	Glandular dysplasia, invasion of the mucosa
Diagnostic Tools	Biopsy + CMV stain, PCR, serology	Biopsy, CT colonography, tumor markers
Treatment	Antiviral therapy (ganciclovir, valganciclovir)	Surgical resection, chemotherapy, and radiation
Prognosis (Immunocompetent)	Usually good with antivirals	Depends on the stage; it can be poor if advanced

Table 2: Analysis Table.

Category	Details
Patient Demographics	78-year-old male, immunocompetent
Presenting Symptoms	Hematochezia, 10 lb unintentional weight loss
Initial Concern	Cecal mass suspected to be colon adenocarcinoma.
Diagnostic Workup	EGD, colonoscopy, biopsy, CMV serology, HIV test, CT abdomen/pelvis
Histopathology Findings	Granulation tissue, inflammation, CMV inclusion bodies
Definitive Diagnosis	Cytomegalovirus (CMV) colitis
Treatment Administered	IV ganciclovir, transitioned to oral valganciclovir
Outcome	Symptomatic improvement; follow-up colonoscopy scheduled
Clinical Significance	Highlights the need to consider CMV in the differential diagnosis for colonic mass, even in immunocompetent hosts
Impact on Practice	Prevents misdiagnosis and unnecessary surgical intervention

Discussion

CMV colitis is commonly encountered in immunocompromised hosts, but its occurrence in immunocompetent patients is rare and may be overlooked. Symptoms typically include diarrhea, abdominal pain, and gastrointestinal bleeding. The disease in immunocompetent individuals is usually self-limiting, but more severe presentations, including mass-like lesions, have been reported in isolated cases [1-6].

The diagnosis of CMV colitis requires a high index of suspicion, especially when endoscopic findings mimic neoplastic processes. Histopathological identification of viral inclusion bodies and immunohistochemical staining are crucial for diagnosis. CMV PCR and serologic testing can further support the diagnosis. In this case, the initial concern was for colon adenocarcinoma due to the appearance of the lesion and the patient's risk factors, including advanced age and anemia. However, biopsies revealed CMV colitis, highlighting the importance of tissue sampling and comprehensive evaluation.

Treatment typically includes antiviral therapy such as ganciclovir or valganciclovir in symptomatic or severe cases. Immunocompetent individuals often recover with antiviral treatment, though follow-up endoscopy is recommended to confirm resolution.

This case underscores the importance of considering CMV in the differential diagnosis of colonic masses, even in patients without obvious immunosuppression. The resemblance to adenocarcinoma can lead to unnecessary alarm and intervention if not carefully evaluated with histopathological analysis.

Conclusion

CMV colitis, while rare in immunocompetent individuals, should be considered in elderly patients presenting with gastrointestinal bleeding and a mass-like lesion. Early recognition and accurate diagnosis can prevent unnecessary surgical intervention, allowing for appropriate antiviral therapy. This case adds to the limited but growing literature on atypical presentations of CMV colitis in immunocompetent hosts (Tables 1,2).

Consent

Informed consent was obtained for this case report and can be provided upon request.

Authors' contributions: Khalid Al-Rayess wrote the manuscript and is the article guarantor. Matthew Glover helped edit the manuscript.

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