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IMAGE | COLON

CMV Colitis Masquerading as MALT Lymphoma in an Immunocompetent Patient

Angela Y. Lam, MD[1], and Jeffrey K. Lee, MD, MPH[1,2]

[1]*Department of Gastroenterology, Kaiser Permanente San Francisco, San Francisco, California*
[2]*Division of Research, Kaiser Permanente Northern California, Oakland, California*

CASE REPORT

A healthy 36-year old woman presented with 3 months of intermittent hematochezia without associated or constitutional symptoms. Laboratory test results were notable for C-reactive protein elevated to 2.2 mg/dL, but a normal erythrocyte sedimentation rate of 12 mm/hr. Colonoscopy demonstrated edematous folds with prominent vasculature throughout the colon and multiple deep ulcers in the rectum (Figure 1). Pathology showed active colitis and proctitis, with immunohistochemistry stains positive for cytomegalovirus (CMV), consistent with CMV-related colitis.

HIV was excluded, and the patient was treated with valganciclovir. A follow-up colonoscopy 3 months afterward demonstrated ulcerations throughout the colon and ileum. Biopsies showed an atypical B-cell infiltrate in a background of CMV ileocolitis (Figure 2), with clonal gene rearrangements in the immunoglobulin heavy chain and kappa light chain genes on molecular analyses. These findings suggested extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma).

Positron emission tomography showed diffuse hypermetabolic foci throughout the rectosigmoid colon, bilateral hypermetabolic adenopathy on both sides of the diaphragm, and equivocal bone marrow involvement (Figure 3). Bone marrow biopsy showed hypercellular marrow with abnormal B-cell population on flow cytometry. She was diagnosed with stage IV MALT lymphoma and started on chemotherapy with rituximab/bendamustine and a prolonged course of valganciclovir, with resolution of hematochezia and colonic ulcerations.

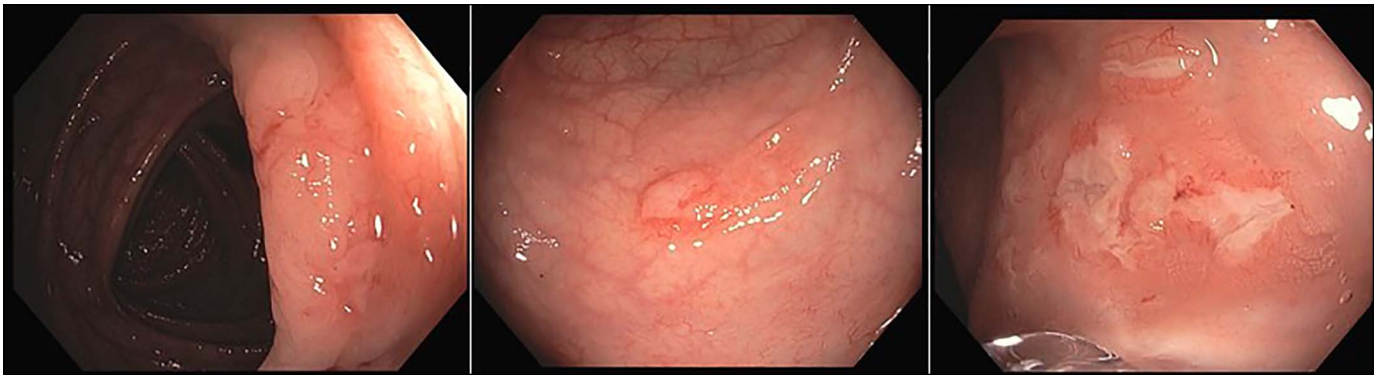

Figure 1. (A–C) Index colonoscopy with (A) multiple edematous, polypoid-appearing folds with a prominent vascular pattern throughout the proximal colon; biopsies showed mild active colitis with cryptitis and chronic inflammation of the lamina propria (B) erythematous polyps with central blanching in the sigmoid colon; biopsies showed moderate active colitis with superficial erosions, cryptitis, and chronic inflammation of the lamina propria associated with cytomegalovirus (CMV) (C) scattered deep ulcers in the rectum, with surrounding mucosal erythema; biopsies showed moderate-to-severe active proctitis associated with CMV.

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Correspondence: Angela Y. Lam, MD (Angela.Y.Lam@kp.org).

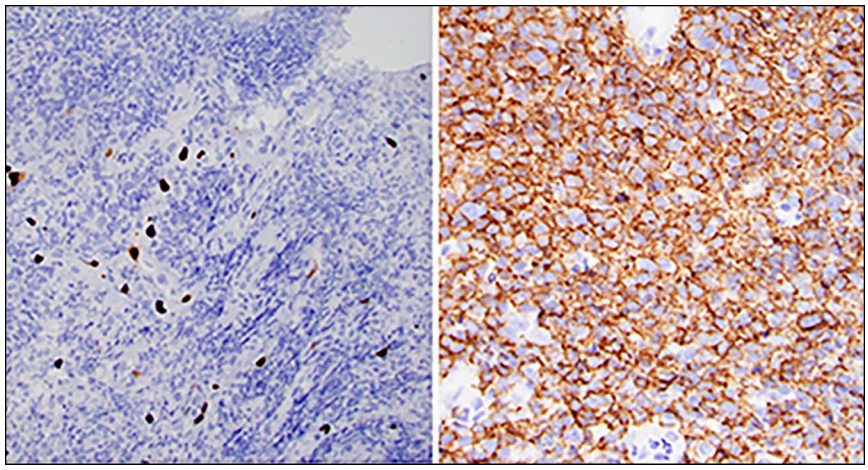

Figure 2. (A–B) Histologic findings from follow-up colonoscopy showing (A) persistent cytomegalovirus (CMV) infection with positive immunohistochemistry in sigmoid mucosa and (B) positive CD20 staining in sigmoid mucosa suggesting lymphoma.

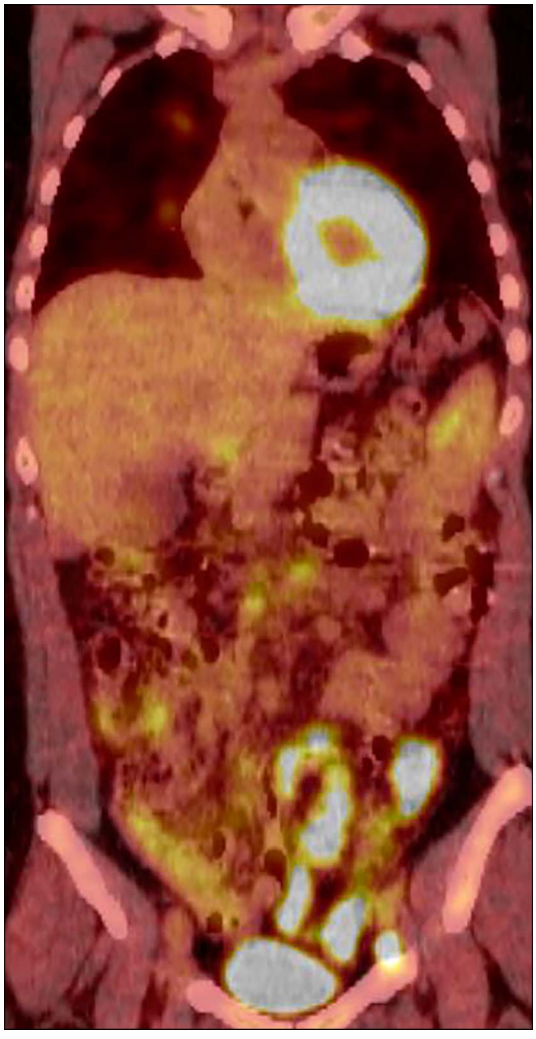

Figure 3. Positron emission tomography (PET)/Computed tomography (CT) demonstrating diffuse hypermetabolic foci throughout the rectosigmoid colon, bilateral hypermetabolic adenopathy on both sides of the diaphragm, and equivocal bone marrow involvement.

CMV reactivation causing significant organ pathology is rare in the immunocompetent host. In case series and meta-analyses, most cases in immunocompetent patients occurred in light of underlying comorbidities (eg, diabetes, chronic kidney disease, and ischemic heart disease),[1] older age (older than 55 years), or new diagnoses of inflammatory bowel disease.[2] Thus, CMV colitis in immunocompetent patients should prompt thorough investigation for diagnoses that may alter immune function.

This case highlights this principle, which led to a new diagnosis of MALT lymphoma in a patient otherwise without comorbidities. A type of non-Hodgkin B-cell lymphoma, MALT lymphoma has a predilection for the gastrointestinal tract (the colorectum is the least common location) and women in the fifth–seventh decades of life.[3,4] Colonic MALT lymphoma is often asymptomatic and incidentally detected on screening colonoscopies.[3,4] Endoscopic features vary, with 4 distinct subtypes described: subepithelial tumors, polyposis, epithelial mass, and ileitis.[5]

CMV colitis in young, seemingly immunocompetent hosts should raise suspicion for underlying conditions that alter the immune response, including undiagnosed inflammatory bowel disease or even lymphoma as seen in this case. A thorough history and workup for immunocompromise, as well as close endoscopic surveillance, is crucial in management.

DISCLOSURES

Author contributions: Drafting of the manuscript and approval of the final manuscript draft submitted—AY Lam and JK Lee. JK Lee is the article guarantor.

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REFERENCES

1. Seo TH, Kim JH, Ko SY, et al. Cytomegalovirus colitis in immunocompetent patients: A clinical and endoscopic study. *Hepatogastroenterology*. 2012;59:2137–41.
2. Galiatsatos P, Shrier I, Lamoureux E, et al. Meta-analysis of outcome of cytomegalovirus colitis in immunocompetent hosts. *Dig Dis Sci.* 2005;50:609–16.
3. Hollie N, Asakrah S. MALT lymphoma of the colon: A clinicopathological review. *J Clin Pathol.* 2020;73:378–83.
4. Abbas H, Niazi M, Makker J. Mucosa-associated lymphoid tissue (MALT) lymphoma of the colon: A case report and a literature review. *Am J Case Rep.* 2017;18:491–7.
5. Kyung Jeon M, So H, Huh J, et al. Endoscopic features and clinical outcomes of colorectal mucosa-associated lymphoid tissue lymphoma. *Gastrointest Endosc.* 2018;87:529–39.