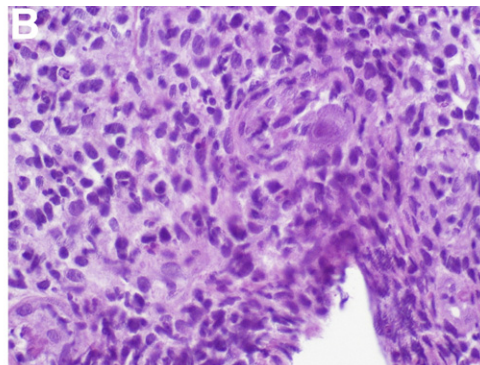
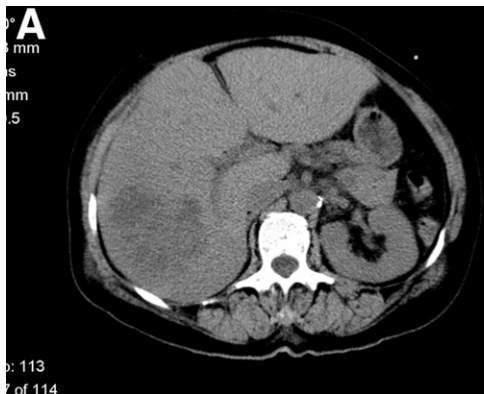


Hepatic Abscess and Colonic Stenosis: Two Complications of an Unlikely Cause

João-Bruno Soares, Aníbal Ferreira, and Raquel Gonçalves

Department of Gastroenterology, Braga Hospital, Braga, Portugal



Question: A 79-year-old woman presented to the emergency room with a 4-week history of watery diarrhea (4–6 bowel movements per day) and a 2-week history of fever and right upper quadrant pain. She denied vomiting. Her past medical history was significant for cholecystectomy and cholangioenterostomy 2 years ago owing to choledocholithiasis and acute biliary pancre-

atitis. On physical examination, her abdomen showed tenderness to palpation in the right upper quadrant without rebound, and normal bowel sounds. The liver lower edge was palpable 4 cm below the costal margin. Laboratory evaluation revealed elevated white blood cells (21,700/ μ L; with 90% neutrophils), C-reactive protein [287 mg/L (normal, <5)], aspartate aminotransferase [44 UI/L (normal, <32)], alanine aminotransferase [56 UI/L (normal, <31)], γ -glutamyl transferase [126 UI/L (normal, 5–36)], and alkaline phosphatase [342 UI/L (normal, 35–105)]. Bilirubin and amylase serum levels were within normal range. A thoracic and abdominal computed tomography (CT) revealed a hypodense lesion in the right lobe of the liver (10 \times 13 cm), suggestive of liver abscess (Figure A). She started antibiotic therapy and on day 2 CT-guided percutaneous drainage of hepatic lesion was performed, yielding purulent fluid. Culture of the aspirated fluid revealed *Escherichia coli*, which was also isolated from blood cultures. Stool examination was negative for ova, parasites, and *Clostridium difficile* toxin. Stool cultures were also negative. Owing to persistence of diarrhea, colonoscopy was performed on day 5 and revealed diffuse mucosal friability and longitudinal ulcers from proximal transverse to cecum, with normal ileum. Biopsy specimens were obtained from ulcers for microscopic examination (Figure B).

What is the most likely diagnosis?

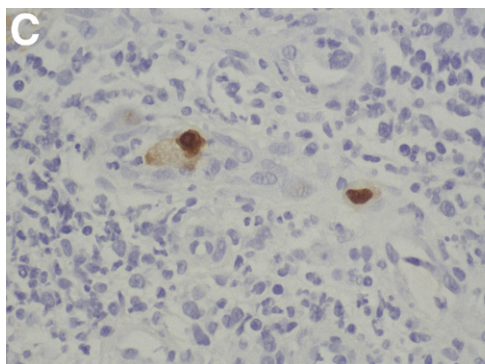
See the GASTROENTEROLOGY web site (www.gastrojournal.org) for more information on submitting your favorite image to Clinical Challenges and Images in GI.

Conflicts of interest: The authors disclose no conflicts.

© 2011 by the AGA Institute

0016-5085/\$36.00

doi:10.1053/j.gastro.2010.06.075



Answer to the Clinical Challenges and Images in GI Question: Image 5: Hepatic Abscess Secondary to Cytomegalovirus Colitis
Microscopic examination showed mucosal ulceration covered by granulation tissue in which there were enlarged

endothelial cells with nuclear inclusion bodies. Immunohistochemical staining of colonic biopsy specimens revealed that endothelial cells were indeed positive for cytomegalovirus (CMV; Figure C). Active CMV infection was confirmed by high immunoglobulin M CMV titer. HIV serology was negative. The patient started IV ganciclovir.

After 3 weeks of treatment, follow-up colonoscopy showed severe stenosis at proximal transverse colon. Biopsy specimens of stenosis revealed only reactive changes of mucosa without nuclear inclusion bodies. A barium enema demonstrated severe stenosis of cecum, and ascending and proximal transverse colon (Figure D). She underwent a right hemicolectomy with ileocolonic anastomosis. Colectomy specimen revealed transmural polymorphic inflammation and fibrosis without any CMV inclusions. There were no findings suggestive of ischemic colitis such as hyalinization, hemorrhage, or hemosiderin deposition in the lamina propria. The postoperative course was complicated by peritonitis secondary to a pinpoint small bowel perforation, which was managed with operatively and with antibiotic therapy. The patient was discharged 15 days after surgery without any treatment. At follow-up 18-months later, she was doing well and a colonoscopy with random biopsies revealed normal ileal and colonic mucosa and a ileo-colonic anastomosis with no lesions.

Most cases of CMV colitis occur in immunocompromised patients.¹ Nonetheless, there have been increasing reports of CMV colitis affecting immunocompetent persons, especially in patients >55 years old.¹ The diagnosis is difficult and usually depends on colonic biopsy showing cytomegalic inclusions.¹ However, the clinical relevance of documenting cytomegalic inclusions in tissues is a matter of great controversy. In our case, we believe that CMV was the cause of colitis and its later complications and not an “opportunistic invader” of an overlying process such as ischemic colitis or Crohn’s disease. We found none of the main histologic changes of ischemic colitis in endoscopic biopsy and colectomy specimens. Attending to the high postoperative endoscopic recurrence rate of Crohn’s disease in untreated patients (65–90% within 12 months of operation), an overlying Crohn’s disease is very unlikely in our case, because colonoscopy with random biopsies performed 18 months after colectomy revealed no lesions. Although the primary therapy for CMV colitis is the use of antiviral drugs, such as ganciclovir, an aggressive clinical course of colitis sometimes requires operative intervention owing to a lack of a response to medical management, or complications.¹

Overall in immunocompetent patients CMV colitis has a spontaneous remission rate of 32%, a colectomy rate of 21%, and a mortality rate of 32%.¹ Hepatic abscess and colorectal stenosis are very rare complications of CMV colitis, with only a few numbers of reports on CMV-associated colorectal stenosis colitis affecting immunocompetent persons without evidence of inflammatory bowel disease.^{2,3} In this case, we believe that although ganciclovir was effective in eliminating CMV, scarring of the extensive colonic ulceration lead to colonic stenosis.

References

1. Galiatsatos P, Shrier I, Lamoureux E, et al. Meta-analysis of outcome of cytomegalovirus colitis in immunocompetent hosts. *Dig Dis Sci* 2005;50:609–616.
2. Ng F-K, Chau T-N, Cheung T-C, et al. Cytomegalovirus colitis in individuals without apparent cause of immunodeficiency. *Dig Dis Sci* 1999;44:945–952.
3. Macaigne G, Auriault M-L, Boivin J-F, et al. Acute cytomegalovirus (CMV) recto-colitis mimicking rectal carcinoma without apparent cause of immunodeficiency. *Gastroenterol Clin Biol* 2004;28:73–76.

For submission instructions, please see the GASTROENTEROLOGY web site (www.gastrojournal.org).