SECTION EDITOR: GRACE S. ROZYCKI, MD

Image of the Month

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A 77-YEAR-OLD MAN PRESENTED AFTER 3 days of diffuse abdominal pain, anorexia, and nausea. Four years before admission, he underwent an abdominoperineal resection for rectal cancer and was since admitted twice with episodes of partial small-bowel obstruction that resolved with conservative measures. Recently, he had developed and was treated for a urinary tract infection. In addition to his abdominal pain, he had profuse, watery stomal output. Although he was afebrile, his white blood cell count was 50.7 $\times 10^3/\mu L$. His abdomen was diffusely tender to deep palpation, but he exhibited no guarding or peritoneal signs. A computed tomographic scan of the abdomen showed a diffusely edematous bowel with ascites (**Figure 1**) and portal venous air (**Figure 2**).

From the Departments of Surgery (Drs St Peter and Heppell) and Pathology (Dr Leslie), Mayo Clinic, Scottsdale, Ariz.

What Is the Diagnosis?

A. Acute mesenteric venous thrombosis
B. Ischemic colitis
C. Pseudomembranous enterocolitis
D. Inflammatory bowel disease

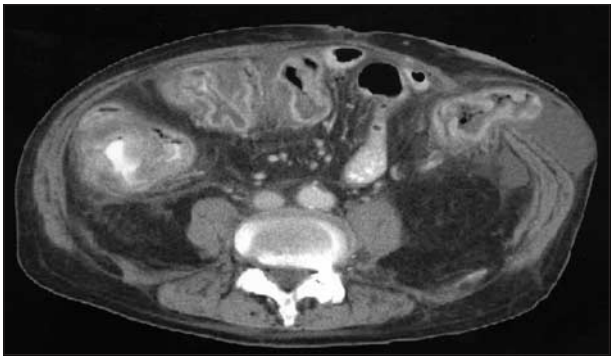

Figure 1.

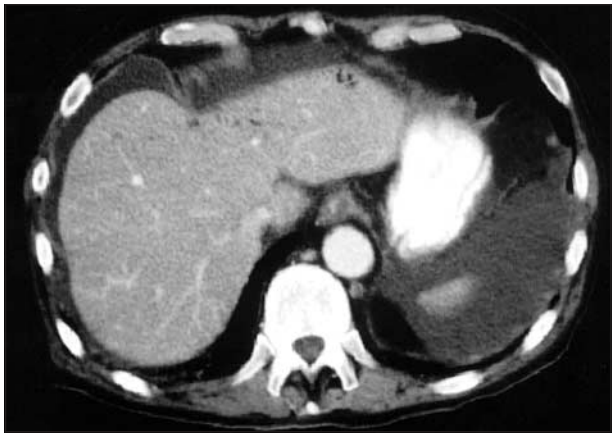

Figure 2.

Answer

Pseudomembranous Enterocolitis

Figure 1. Computed tomographic scan of the abdomen shows diffusely edematous bowel, hyperemic mucosa, and ascites.

Figure 2. Computed tomographic scan of the abdomen shows portal venous air.

Clostridium difficile is a gram-positive obligate anaerobe that produces 2 toxins: an enterotoxin (toxin A) and a cytotoxin (toxin B). Animal studies[1] demonstrate that both toxins are necessary for the clinical picture of antibiotic-associated colitis.

The presentation varies from an asymptomatic person who is a carrier to the patient with fulminate colitis. *Clostridium difficile* exists in an asymptomatic carrier state in approximately 3% of adults without evidence of toxin production.[2]

The possible causes for *C difficile* colitis include antibiotic therapy, human immunodeficiency virus infection, candidiasis, malignancy, chemotherapy, malnutrition, intestinal obstruction, decubitus ulcer, renal failure, and interventional procedures.[3] The stool assay for cytotoxin is the most accurate method of diagnosis and has a sensitivity of 67% to 100% and a specificity of more than 85%.[4] Because the assay results are not known for a few days, some authors suggest that endoscopy is more rapid and effective in establishing the diagnosis by its ability to demonstrate thick exudative plaques known as pseudomembranes.[5] Findings on the computed tomographic scan include bowel wall thickening (>4 mm) and the presence of wall nodularity, fat stranding, or unexplained ascites. These findings have been reported to have a positive predictive value of 88%.[6]

The unique feature of our case was the distinctive pattern of portal venous gas identified on computed tomography of the abdomen, and a colectomy with ileostomy was performed.

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Submissions

Due to the overwhelmingly positive response to the "Image of the Month," the *Archives of Surgery* has temporarily discontinued accepting submissions for this feature. It is anticipated that requests for submissions will resume in mid 2004. Thank you.