Stack of Coins Sign in a Patient With Recurrent Abdominal Pain

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Question: A 24-year-old Asian American woman without any past medical history or relevant family history presents for a second admission owing to intermittent, sharp, diffuse abdominal pain with mildly loose, nonbloody stools. Her symptoms are not associated with meals. Her initial episode lasted 2 weeks. The current episode has lasted for a few days. Physical examination revealed a well-appearing, afebrile woman with diffuse abdominal tenderness without peritoneal signs. During her original workup, fecal studies were negative for Clostridium difficile and testable forms of viral and bacterial infectious colitis, and a computed tomography scan revealed duodenitis and jejunitis with a “stack of coins sign” (Figure A). During her second admission, an enterography protocol computed tomography scan revealed resolution of duodenitis and jejunitis but accentuation of more distal small bowel findings of diffuse long segment enteritis. A “stack of coins sign” was found (Figure B).

What is the patient’s diagnosis?

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Conflicts of interest
The authors disclose no conflicts.

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Answer to: Image 4: Lupus Nephritis

Colonoscopy with terminal ileal intubation and push enteroscopy revealed no mucosal abnormalities. Histopathologic examination of duodenal, jejunal, and ileal biopsies was normal. The intestinal stack of coins sign raised concern for a vasculitis. Laboratory testing showed multiple positive autoantibodies (anti-nuclear, anti-Ro, anti-La, anti-ribosomal, anti-centromere, double-stranded DNA, C-ANCA), a very high Westegren sedimentation rate (95 mm), low complement levels (C3 and C4), and normal hemoglobin, platelet count, prothrombin time, and albumin. Renal function was normal, but urinalysis revealed microhematuria and proteinuria and subsequent renal biopsy revealed class V lupus nephritis. She was treated for lupus and her abdominal pain resolved.

The intestinal stack of coins sign is also known as the Hidebound bowel sign. This configuration arises from autoimmune conditions including scleroderma, lupus, and sprue but also from small bowel mural hematomas in the setting of coagulopathy (eg, warfarin, hemophilia, idiopathic thrombocytic purpura, leukemia). The cause of this appearance is the narrow separation between valvulae conniventes with dilation of the bowel lumen. Imaging patterns of fold thickening are either “regular,” representing the stack of coins sign owing to bowel wall hemorrhage or edema, or “irregular,” associated with infections (giardiasis, tuberculosis, etc), nonspecific inflammatory or infiltrative disorders (amyloidosis, eosinophilic enteritis, etc) or malignancy (eg, lymphoma). We reasoned that the patient had bowel wall edema in the setting of vasculitis and absent evidence of hemorrhage. Whereas autoimmune conditions typically require immunosuppressive or dietary therapy, small bowel mural hematomas are often managed conservatively. Detection of the stack of coins sign, a pattern of “regular” fold thickening, helps to narrow the differential diagnosis and evaluation, but often requires early recognition and a multidisciplinary approach for successful diagnosis and treatment.

References