CLINICAL VIGNETTE

An Atypical Presentation of Celiac Disease

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Case Presentation

A 59-year-old male with a history of hypertension was referred for several months of profuse, non-bloody diarrhea. He was previously healthy without episodes of diarrhea in the past. He described a sense of urgency, occasional incontinence, and nocturnal symptoms. He reported watery stools every five to six hours. He had lost nearly 30 pounds over a four-month period and been hospitalized on three separate occasions due to dehydration and acute renal failure from his diarrhea. He described some associated abdominal cramping with bloating but no nausea, emesis, or overt gastrointestinal bleeding. He was given an empiric course of metronidazole with no improvement. Despite use of loperamide and bismuth subsalicyclate on a PRN basis, his symptoms continued unabated.

Despite an extensive work-up at an outside facility, his diagnosis remained unclear. His outside labs were remarkable for a slight transaminemia with an AST 45 U/L and ALT 59 U/L. His alkaline phosphatase, bilirubin, chemistries, albumin, amylase, lipase, CBC were all within normal limits. A celiac panel and all serologies were negative. Multiple stool studies were negative for an underlying infectious etiology. A CT scan of the abdomen did not reveal any intra-abdominal abnormalities. An upper endoscopy and colonoscopy performed by an outside gastroenterologist were grossly normal. Random biopsies of the duodenum revealed near total villous blunting and increased intraepithelial lymphocytes. Biopsies of the terminal ileum revealed milder villous blunting and a mixed inflammatory infiltrate in the mucosa. Biopsies of the stomach and colon did not reveal any histopathologic abnormality. Despite negative celiac serologies, the patient was placed on a gluten-free diet for 2 weeks with no improvement. Thus, the patient was referred for a second opinion.

On physical examination, the patient was afebrile with a blood pressure of 148/75, heart rate of 66, respiratory rate of 20, and normal oxygen saturation. He appeared well and his physical exam was grossly unremarkable. Additional labs included an ESR, CRP, repeat LFTs, repeat celiac serologies, and quantitative IgA, which were all normal. A celiac genetics panel returned positive for the HLA DQ2 and DQ8 genotypes. He was then referred to a clinical nutritionist for dietary counseling to institute a strict gluten-free diet. The patient reported significant symptomatic improvement within 2 weeks. He reported 1 formed bowel movement daily off of antidiarrheals. He gained 12 pounds within a 2-month period. A repeat upper endoscopy with biopsies of the duodenum three months later revealed histologic resolution of the villous blunting and inflammatory infiltrate previously noted in the small bowel.

Discussion

This case represents an atypical presentation of celiac disease. Currently available serologic tests for celiac disease are highly accurate in diagnosis of this condition. The sensitivity ranges from 85-98% and the specificity ranges from 95-100% for the most commonly utilized serologic tests (endomysial IgA, tissue transglutaminase IgA, deamidated gliadin IgA/IgG).[1-5] Nonetheless, false negative results can occur. Selective IgA deficiency is more common in patients with celiac disease, which can sometimes account for negative celiac IgA serologies.[6] Given this, most current celiac serologic panels include an IgA level to detect the presence of this deficiency. The gold standard for the diagnosis of celiac disease remains tissue biopsies of the duodenum, which may demonstrate some degree of intraepithelial lymphocytic infiltration and villous atrophy.[7] The differential diagnosis for villous atrophy in the small bowel includes: tropical sprue, autoimmune enteropathy, recent intestinal infection, inflammatory bowel disease, NSAID injury, or common variable immunodeficiency.[8] While not all patients with the HLA DQ2/DQ8 genotypes have celiac disease, virtually all patients with celiac disease have these genotypes. Given this, a negative test for these genotypes essentially eliminates the possibility that the patient has celiac disease.[9,10] Our patient tested positive for these genotypes, which opened the possibility that the celiac serologies obtained were falsely negative. The patient was previously deemed a nonresponder to a gluten-free diet. The most common reason for nonresponse to a gluten-free diet is poor dietary compliance or inadvertent gluten ingestion. Other causes for nonresponse include associated disorders or alternative diagnoses: refractory sprue, ulcerative jejunitis, or intestinal lymphoma.[7] With proper dietary counseling, the patient instituted a strict gluten-free diet and had an expeditious recovery. This diagnosis was further reinforced by histologic resolution of the small bowel villous atrophy and inflammatory infiltrate previously noted after the patient had eliminated gluten from his diet for three months. This finding isolates gluten ingestion as the sole trigger for the histopathologic findings and subsequent clinical symptoms, as well as represents the hallmark feature of celiac disease, also known as gluten sensitive enteropathy.[11]

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