CLINICAL VIGNETTE

Collagenous Sprue

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Case Presentation

A 71-year-old male with a history of hypertension, GERD, asthma, and alcohol abuse was referred for four months of diarrhea and weight loss. He described gradual onset of progressive, profuse, watery, non-bloody stools. At the time of evaluation, he reported greater than twenty bowel movements daily with associated urgency, incontinence, and nocturnal symptoms. He had lost nearly forty pounds since the onset of his symptoms.

He reported no relief with loperamide, lomotil, or cholestyramine. He was treated empirically for C. difficile with oral flagyl and vancomycin without impact on his symptoms. He denied any travel history, sick contacts, or recent changes to his medications or diet. He was free of abdominal pain, bloating, abdominal distention, or overt gastrointestinal bleeding. On rare occasion, he did report brief self-limited episodes of nausea and emesis.

On physical examination, he was afebrile and normotensive with a heart rate of 70, respiratory rate of 20, and normal oxygen saturation. His physical exam was grossly unremarkable. Bloodwork including a CBC, chem-7, albumin, lipase, amylase, ESR/CRP, and celiac panel were unremarkable. A 24-hour urine 5-HIAA, AM cortisol, gastrin level, VIP level, chromogranin-A level, and TSH were within normal limits. His liver tests did reveal slight transaminemia with an AST of 66 U/L, ALT 59 U/L, and normal alkaline phosphatase and bilirubin. Multiple stool cultures were negative for infection. A serum carotene level was low at 18 µg/dL, which indicated the presence of protein malabsorption.

Upper endoscopy revealed gross features suggestive of celiac disease with "scalloping" of the mucosa and decreased valvulae in the duodenum. Duodenal biopsies revealed subtotal villous blunting with increased intraepithelial lymphocytes and an increased subepithelial collagen layer. Colonoscopy was grossly normal. Random biopsies revealed features of microscopic colitis with some notable subepithelial collagen deposition.

Given the diagnosis of collagenous sprue and microscopic colitis, the patient was started on a strict gluten-free diet and a course of corticosteroids. He was given 20 mg of prednisone daily. The patient noted significant clinical improvement within two weeks with one-to-two formed stools daily. Repeat duodenal biopsies at eight weeks revealed near complete resolution of the previously noted villous atrophy, mucosal inflammation, and collagen deposition. His medications were later transitioned over the following months to oral budesonide and tincture of opium. He continued to exhibit clinical improvement, and he regained approximately thirty pounds in the following three months.

Discussion

Collagenous colitis, which represents a subtype of microscopic colitis, is a well-recognized entity as an etiology for profuse diarrhea in older individuals. This case represents a rare form of small bowel enteropathy with similar clinical and histologic features of celiac disease. Collagenous sprue was first characterized by Dr. Wilfred Weinstein in 1970 when he reported on a 51-year-old female with refractory malabsorption in the New England Journal of Medicine.[1] There are little data on the natural history of this condition. Most of the available literature is limited to case reports or series of refractory sprue. One review of twelve patients with collagenous sprue reported celiac disease in four patients. These four patients improved on a strict gluten-free diet and immunosuppressive medications. Four of the seven patients with available serologic tests for celiac disease had negative tests. Eight cases in the series were associated with microscopic colitis. Two deaths were attributed to malnutrition while on treatment (gluten-free diet and immunosuppresives).[2]

Histologic features of collagenous sprue are very similar to celiac disease, which include the presence of villous atrophy, a mixed inflammatory mucosal infiltrate, and increased intraepithelial lymphocytes in the small bowel. The notable exception would be the presence of subepithelial collagen deposition.[3] Debate remains as to the exact relationship of this disorder to celiac disease. Most reported cases did not exhibit clinical or histologic improvement with institution of a gluten-free diet alone, which remains a hallmark feature of celiac disease. There are no uniform treatment strategies for collagenous sprue.[4,5] A retrospective review of thirty cases at Mayo between 1993 and 2009 reported a majority of patients (twenty-four) with a significant clinical response after treatment with a combination of a gluten-free diet and immunosuppression with corticosteroids.[6] The authors recommended use of oral budesonide as with other inflammatory conditions of the gut, given its limited systemic

absorption attributed to the increased first pass effect in the liver.[6,7] Very little long-term data has been published to guide treatment, but given the high likelihood of relapse with this condition, steroid sparing agents such as 6-mercaptopurine and azathioprine can be considered.[8]

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Submitted April 3, 2015