CLINICAL VIGNETTE

Microscopic Colitis in a Patient Previously Diagnosed with Celiac Disease

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Case

A 68-year-old woman presents with two months of watery, non-bloody diarrhea. After diagnosis of Celiac disease, she has been on a gluten-free diet for the last 14 years. She worked as a clinical nutritionist and was confident in her compliance with a gluten-free diet. Until her symptoms started two months ago, her bowel movement frequency and consistency had been normal. Now, despite the use of at least one loperamide daily, she reported between two to ten bowel movements per day. She lost ten pounds since her symptoms started two months ago. She denies significant abdominal pain, but she did report mild abdominal cramping relieved by bowel movement passage at least once per week. She had no recent fever, antibiotic use, or travel. She does not smoke and her past medical history is only significant for osteoarthritis, for which she takes Diclofenac 100 mg by mouth daily for many years.

Her physical examination and laboratory investigation were unremarkable. Stool tests were negative for ova and parasites, giardia antigen, clostridium difficile, and qualitative stool fat. Blood tests include normal tissue transglutaminase IgA (<1) and immunoglobulin A level, normal thyroid stimulating hormone, basic metabolic panel, and serum calcium.

The EGD demonstrated a 1 cm nodule in the duodenum (Figure 1), but which otherwise appeared endoscopically normal.

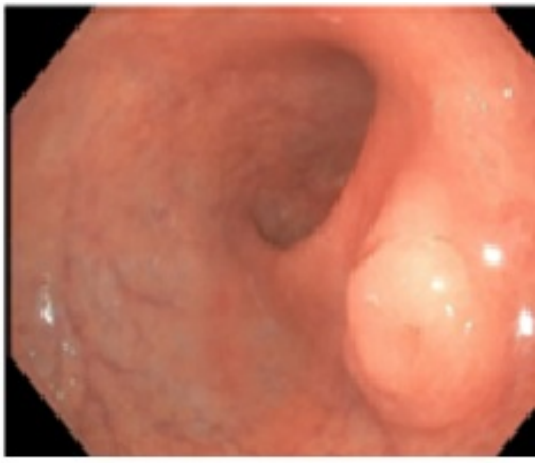

Figure 1

The biopsies taken from the duodenal nodule demonstrated heterotopic gastric mucosa. Six random biopsies taken from throughout the duodenal bulb and second portion of the duodenum showed a Marsh 3a lesion -- indicating partial villous atrophy. By contrast, the random duodenal biopsies taken from her index EGD (at the time her Celiac disease was first diagnosed) had shown a Marsh 3b lesion -- indicating subtotal villous atrophy. Comparing the duodenal biopsies from the two EGDs, showed the patient failed to achieve histologic normalization of her duodenal mucosa despite a gluten-free diet, and also failed to achieve significant histologic improvement.

Colonoscopy demonstrated mild erythema in the cecum and ascending colon (Figure 2) and biopsies taken from the right and left colon demonstrated collagenous colitis.

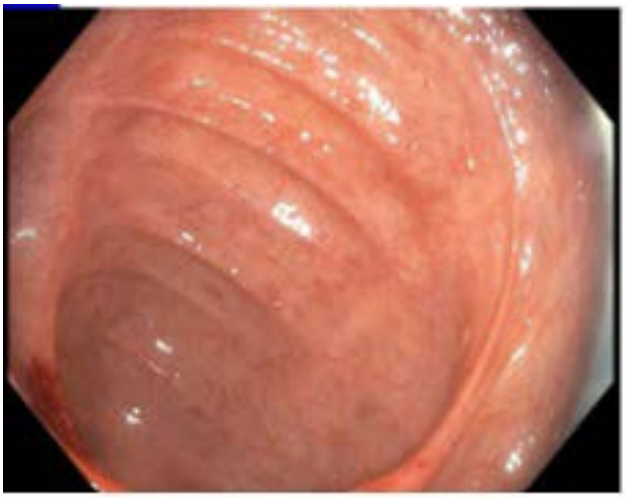

Figure 2

The patient was advised to discontinue Diclofenac and was started on budesonide 9 mg by mouth daily. After 4 weeks on the budesonide, her diarrhea had resolved. She was instructed to taper her budesonide to 6 mg daily for two weeks, followed by budesonide 3 mg daily for two weeks. She successfully tapered off of the medication without any recurrence of her diarrhea to date.

Discussion

Microscopic colitis is found in 7.5% of all patients that undergo evaluation for chronic diarrhea.[1] In order to make a diagnosis of microscopic colitis, three defining features must be present. First, the patient must have a chronic, watery, non-bloody diarrhea. Second, the colon must appear normal (or almost

normal) on colonoscopy. Third, biopsies taken from the colon should demonstrate a distinct histologic pattern.[2]

Two histologic varieties of microscopic colitis can be seen: collagenous colitis and lymphocytic colitis. Collagenous colitis is associated with a sub-epithelial collagen band spanning at least 10 micrometers in thickness. Lymphocytic colitis is associated with at least 20 intraepithelial lymphocytes per 100 epithelial cells. For the optimum sampling, it is suggested to obtain at least 8 biopsies from different areas of the colon.[3] Segmental colon biopsies do not need to be separated into different bottles by segment. They can be placed into right and left colon biopsy bottles.

Although the exact pathophysiology of microscopic colitis is not well understood, either ingested medications or bacterial antigens are felt to contribute to development of the disease. Medications listed in Figure 3 have been suggested as possible causes of microscopic colitis (Figure 3).[4] It is hypothesized that medications (or perhaps bacterial antigens) present within the fecal stream migrate into the colonic sub-epithelial space, where they can coordinate dysregulated immune and inflammatory reactions.

Drug (class)	Likelihood
Acarbose	High
Aspirin	High
Proton Pump Inhibitors	High
NSAIDs	High
H2 receptor antagonists	High
SSRIs	High
Ticlopidine	High
Carbamazepine	Intermediate
Flutamide	Intermediate
Lisinopril	Intermediate
Statins	Intermediate

Figure 3

Treatment for microscopic colitis involves stopping any offending medication. Loperamide and Bismuth may be useful in treating mild to moderate cases of microscopic colitis.[3] For more severe cases, budesonide is strongly recommended for in the induction and maintenance of remission.[1]

Celiac disease is strongly associated with microscopic colitis. Patients with pre-existing Celiac disease have a 70-fold increased risk of developing microscopic colitis.[5] In patients with both microscopic colitis and Celiac disease, the microscopic colitis has been diagnosed a mean of 45 months after Celiac disease diagnosis.

Our patient failed to achieve normalization of duodenal histology. A significant portion of patients with Celiac disease fail to achieve complete mucosal recovery. In patients with Celiac disease alone, only 66% of patients achieve complete mucosal recovery after 5 years on a gluten-free diet.[6] In those patients with both microscopic colitis and celiac disease, the rates of duodenal mucosal recovery may be even lower. One study of 30 patients with microscopic colitis and Celiac disease overlap, with excellent compliance to gluten-free diet, only 13% were found with mucosal recovery after a mean of 46 months, whereas 40% still had subtotal or total villous atrophy.[5] This is relevant because patients with Celiac disease who fail to achieve duodenal histologic normalization may be at increased risks of bone disease and small bowel lymphoma.

Conclusion

Microscopic colitis and Celiac disease commonly occur together. Patients with previously diagnosed Celiac disease who develops diarrhea despite compliance to a gluten-free diet, should be evaluated for microscopic colitis. Overlap of both microscopic colitis and Celiac disease may reduce the likelihood of duodenal histologic normalization compared to patients with Celiac disease alone.

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