

## **CASE STUDY**

### **A CHRONIC CASE OF DIARRHEA**

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A 59 year old female presented to an outside hospital with acute onset diarrhea that persisted for three weeks. She was having loose, watery stools at least six times/day, sometimes hourly. She did have nighttime bowel movements as well. She tried Imodium without any effect. She was found to be profoundly dehydrated with new onset renal failure, creatine >7. She was transferred to Spectrum Health-Butterworth for further evaluation. She underwent aggressive hydration and her creatinine improved to 2.5, however, she continued to have large volume diarrhea.

Stool was sent for culture, Clostridium difficile, and ova and parasites and was negative. Gastroenterology was consulted for further management. Esophagogastroduodenoscopy (EGD) and colonoscopy were performed and were unremarkable for gross endoscopic abnormalities. Duodenal and random colon biopsies (throughout the entire colon) were obtained. Colon biopsies revealed lymphocytic colitis and the patient was started on Budesonide 9mg oral daily. She began to have improvement of her diarrhea and was able to be discharged after eight days in the hospital.

This case illustrates a practical approach to a patient with severe, acute diarrhea that became chronic in nature. Usually, diarrhea is considered chronic after 3-4 weeks. Approach to the patient should include a thorough history and physical including the following: travel history, recent antibiotic use or hospitalization (both risk factors for Clostridium difficile), new medications, laxative use, consumption of lactose products or sugar substitutes, and HIV risk factors. Blood, weight loss, and nocturnal stool are "red flags" that suggest against a benign etiology such as irritable bowel syndrome. A history of fecal incontinence should also be discussed as this can often be confused with diarrhea.

Physical exam may provide clues to underlying systemic disease. Laboratory evaluation should include complete blood count and differential, thyroid function tests, serum electrolytes, and total protein including albumin. As done in this case, stool should be sent for culture, Clostridium difficile, fecal leukocytes, fecal fat, and electrolytes to help differentiate osmotic from secretory diarrhea. Bacterial overgrowth should be considered.

If severe diarrhea persists beyond this workup, testing for neuroendocrine tumors can be considered. Many cases of chronic diarrhea require endoscopic evaluation. Sigmoidoscopy is reasonable to start with, however, colonoscopy allows terminal ileum intubation for suspected cases of Crohn's disease. Further, 10% of cases of collagenous colitis, a form of microscopic colitis, will have involvement only in the proximal colon. As a result, it is usual practice in a

patient with chronic diarrhea to perform random biopsies from both the proximal and distal colon.

This patient was diagnosed with lymphocytic colitis, a form of microscopic colitis. Microscopic colitis consists of chronic watery diarrhea without bleeding. It usually occurs in the 6th or 7th decade of life. Essentially, two main types of microscopic colitis exist, lymphocytic colitis and collagenous colitis. Clinically, they produce similar symptoms of diarrhea, sometimes up to two liters/day. The histology differs, as collagenous colitis is characterized by a thickened subepithelial collagenous band in the colonic mucosa while lymphocytic colitis is characterized by a subepithelial lymphocytic infiltrate in the colon. However, overlap in histology can exist. Both entities appear to be more common in females, though the female: male ratio is higher for collagenous colitis. The specific cause is unknown, but genetic predisposition, NSAIDs (as well as many other drugs), and viral/bacterial illnesses have all been proposed as inciting factors. Microscopic colitis has an apparent association with other diseases, including celiac disease, arthritis, thyroiditis, and possibly inflammatory bowel disease.

As in this patient, sudden onset of diarrhea has been reported to be as high as 40% in a new diagnosis of microscopic colitis. Stools range from 3 to greater than 10 a day, often with nocturnal diarrhea. Patients may have weight loss and fatigue. Symptoms usually subside in the majority of patients with treatment, but approximately one-third of patients may have chronic exacerbations. There appears to be no increased risk of colon cancer or mortality from microscopic colitis.

The diagnosis, as suggested by the name, is made by histology. Colonoscopy usually reveals normal mucosa. Colonic biopsies should be obtained in all patients with chronic diarrhea to rule out microscopic colitis, and proximal colon biopsies are optimal. Thus, although debated, colonoscopy over sigmoidoscopy should be considered in all patients with chronic diarrhea.

Randomized data is lacking for treatment of microscopic colitis. Recommendations include discontinuation of NSAIDs and initiation of gluten free diet if celiac disease is found. Acceptable therapies include loperamide, bismuth subsalicylate, budesonide, aminosalicylates, sulfasalazine, cholestyramine, or prednisone. As mentioned, the patient was started on budesonide 9mg while in the hospital with marked resolution in her diarrhea. This dose was tapered over several months. Interestingly, she also was suspected to have celiac disease and has further improved on a gluten free diet. If you have any questions, please call our office at (616) 774-2414.