CASE REPORT

Pseudomembranous collagenous colitis: an unusual cause of chronic diarrhoea

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a.khan-kheil@nhs.net**SUMMARY**

An 81-year-old woman presented with a history of severe chronic diarrhoea resulting in an admission with syncope and electrolyte abnormalities. Imaging studies of the bowel were normal. However, biopsies taken during colonoscopy enabled a diagnosis to be made and effective treatment to be initiated. This case report details the presentation, diagnosis and management of a rare injury pattern affecting the bowel: pseudomembranous collagenous colitis.

BACKGROUND

Clas Lindstrom first described collagenous colitis in 1976.¹ However, pseudomembranous collagenous colitis has only been described recently. It is a rare form of microscopic colitis that can be diagnosed by taking biopsies from what can appear to be an endoscopically normal colon, which is characterised by the thickening of the subepithelial collagen and formation of pseudomembranes.²⁻³ Radiological imaging also does not often highlight any abnormality and patients present with chronic watery diarrhoea, which does not often contain blood or mucus, as the mucosa is not disrupted by inflammation.¹ Pseudomembranous change in collagenous colitis is the focus of our case report. We discuss how this uncommon injury pattern, identified by biopsy, demonstrates neutrophils, necrotic debris, fibrin and detached epithelium, which aggravates the inflammation resulting in a greater severity of symptoms than collagenous colitis alone.

CASE PRESENTATION

An 81-year-old woman was seen in the gastroenterology clinic with a 6-month history of severe diarrhoea. The patient reported passing type 7 stools on the Bristol scale up to 20 times a day with frequent nocturnal events. There was no associated bleeding or passage of mucus per rectum and the stools were not greasy or pale. The patient also reported weight loss of 7 kg and no alleviation of symptoms with loperamide. The severity of her symptoms resulted in an emergency admission with a syncopal episode and dehydration. Medical history included a sigmoid colectomy 5 years previously for a sigmoid colonic stricture due to diverticular disease as well as a myocardial infarction 9 years previously. She was also on hormonal treatment for breast cancer for which she had had a wide local excision 1 year prior to presentation.

INVESTIGATIONS

The patient underwent routine investigations in order to identify the cause of diarrhoea. Blood tests revealed a mild microcytic anaemia with low serum ferritin (14 µg/L, normal range 15–350) in keeping with iron deficiency anaemia; coeliac serology (tissue transglutaminase antibody) was negative and thyroid function normal. C reactive protein was elevated at 42 mg/L. Faecal calprotectin was raised at 210 µg/g of stool (normal range <51 µg/g) confirming inflammation of the bowel. Repeated stool cultures were negative for pathogens and *Clostridium difficile* toxin. CT colonography did not identify any abnormalities to correlate with the symptoms. An MRI scan of the small bowel was normal. The results from the SeHCAT scan were 44%, indicating that there was no bile salt malabsorption, which is another cause for severe watery diarrhoea. Upper gastrointestinal endoscopy was normal; duodenal biopsies showed mild chronic inflammation. Colonoscopy was macroscopically normal; however, colonic biopsies from the left colon demonstrated a collagenous band and increased inflammatory cells in the sigmoid colon with prominent pseudomembrane formation (see figure 1). Right-sided colonic biopsies were normal.

DIFFERENTIAL DIAGNOSIS

In a patient of this age presenting with diarrhoea, weight loss and anaemia, it is essential to exclude colonic malignancy. This was carried out by imaging and colonoscopy. Crohn's disease needs to be considered as this would explain the patient's symptoms and the colon is a common site of the disease. However, there were no extraintestinal manifestations of note on examination and the patient did not report any associated abdominal pain. In addition, CT colonography, colonoscopy and biopsies failed to show any evidence of Crohn's disease. This case illustrates the importance of taking sequential colonic biopsies to formulate a diagnosis in the context of diarrhoea.

Another increasingly recognised cause of diarrhoea is bile acid malabsorption, which was excluded with SeCHAT scanning.

The above investigations were discussed at the inflammatory bowel multidisciplinary team meeting and previous colonic biopsies taken 5 years previously were also reviewed and demonstrated increased inflammatory cells and subepithelial collagen within the sigmoid stricture and pseudomembrane. Thus, a diagnosis of pseudomembranous collagenous colitis was reached.

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Figure 1 Colonic biopsy specimen demonstrating a subepithelial band of collagenous material, together with inflammation and a surface pseudomembrane of inflammatory and debris material.

TREATMENT

In terms of pharmacological treatment, the patient's medications were reviewed. Lansoprazole was withdrawn and anastrozole was temporarily discontinued in order to identify whether these medications had caused the symptoms. Neither change improved her diarrhoea. A course of budesonide (9 mg/day) was started which dramatically improved her symptoms.

OUTCOME AND FOLLOW-UP

The patient is now asymptomatic after continuing with budesonide 3 mg once daily. She has been counselled regarding the potential risk of relapse following cessation of steroid therapy.

DISCUSSION

Inflammatory bowel disease constitutes a broad spectrum of conditions, some more common than others. In this case, we have aimed to highlight a less common case of microscopic colitis, which was successfully diagnosed and treated by comparing biopsies taken throughout the patient's symptomatic episodes. Collagenous colitis is characterised by a thickened subepithelial collagen band ($>15\ \mu\text{m}$) and a variable, often mild, increase in intraepithelial lymphocytes.^{1 4} Pseudomembranous colitis is an injury pattern that is often associated with ischaemic, toxin-induced or infective aetiologies.³ Thus, it was essential in this case that stool samples were examined in order to exclude other commoner causes such as *C difficile* infection.

Recent guidelines published by the British Society of Gastroenterology highlight the importance of biopsy technique

and clinical correlation.⁵ They emphasise the significance of taking biopsies from multiple sites in the colon and the relevance of multidisciplinary meetings in order to discuss the findings.

In terms of treatment of collagenous colitis, the first line of treatment is loperamide, but in this case it had little effect. In one recent randomised controlled trial looking at the treatment of lymphocytic colitis, it was shown that a 6 week course of low-dose budesonide led to remission in 86% of the budesonide group and only 48% of a placebo group.⁶ This was documented via colonoscopy and histology. Furthermore, even those who relapsed, still responded again to budesonide.

Learning points

- ▶ The importance of excluding common and sinister causes such as malignancy in patients presenting with diarrhoea.
- ▶ The significance of taking colonic biopsies even if macroscopic appearances are normal at endoscopy.
- ▶ The relevance of a multidisciplinary approach to diagnosis in order to correlate clinical symptoms with biopsy findings and thus instigate appropriate treatment.
- ▶ The importance of stool cultures and testing for toxin in order to exclude *Clostridium difficile* associated pseudomembranes and colitis.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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