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Coeliac disease and collagenous colitis

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Summary: We describe a case of collagenous colitis in a young man with coeliac disease who had responded clinically and histologically to a gluten-free diet three years previously. The collagenous colitis responded initially to oral corticosteroid therapy and he is now asymptomatic (and with normal rectal mucosa) on oral mesalazine. Collagenous colitis should be considered in the coeliac patient with diarrhoea despite adherence to a gluten-free diet.

Introduction

Collagenous colitis was first described by Lindstrom in 1976,[1] who reported a patient with chronic watery diarrhoea, in whom a thick subepithelial deposit of collagen was found in the macroscopically normal mucosa. Since then, many more cases have been described, and the condition is now recognized as a specific disease entity. The presence of subepithelial collagen in the jejunal mucosa of untreated coeliac disease is well recognized,[2] yet there are only two reports of collagenous colitis associated with coeliac disease.[3,4]

We describe a case of collagenous colitis in a young man, diagnosed as having coeliac disease three years earlier, and who had responded clinically and histologically to a gluten-free diet.

Case report

The patient was a 29 year old man who presented in December 1984 with diarrhoea of 8 months duration. The diarrhoea was intermittent and not associated with the passage of blood or mucus. There was no past medical history of note, apart from gout, which had been diagnosed in 1978 and was controlled on allopurinol 300 mg daily. Physical examination, routine blood tests and rectal biopsy showed no abnormality. Jejunal biopsy showed severe partial villous atrophy with crypt hyperplasia and numerous intraepithelial lymphocytes (Figure 1). He was commenced on a gluten-free diet and responded clinically and histologically. A repeat jejunal biopsy, performed 9 months later, showed significant improvement with mild partial villous atrophy (Figure 2). He continued taking allopurinol.

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He was well until November 1987, when he complained of a recurrence of diarrhoea, of 6 weeks duration, despite rigid dietary adherence. Repeat jejunal biopsy showed no evidence of relapse. Sigmoidoscopy revealed a hyperaemic rectal mucosa and a biopsy was taken. Rectal biopsy (Figure 3) showed a thick subepithelial collagenous band typical of collagenous colitis. Biopsies taken from various sites in the colon showed similar changes.

He was treated with oral prednisolone 10 mg daily for two months; his diarrhoea resolved and rectal biopsy showed a significant reduction in the collagenous thickening, which now measured less than 10 μm. Prednisolone was discontinued but he had a recurrence of diarrhoea 6 months later which responded to mesalazine 400 mg twice daily (he was intolerant of sulphasalazine). He is now asymptomatic on this therapy and rectal histology is normal.

Histological findings

All biopsies were fixed in 10% buffered formalin solution. Haematoxylin and eosin (H&E) and Van Gieson stains of paraffin embedded sections were examined. The thickness of the subepithelial collagen band was measured using a micrometer eyepiece and a × 40 objective, and the mean thickness calculated from 10 points on each section. H&E stained sections of the rectal biopsy showed a diffuse subepithelial eosinophilic thickening, associated with a mild to moderate infiltrate of lymphocytes and plasma cells in the lamina propria. This subepithelial band stained positive for collagen with van Gieson (Figure 3). The thickening involved the intercryptal areas with no significant pericryptal involvement.

Biopsies from various sites in the colon showed similar features, the thickness of the collagen band

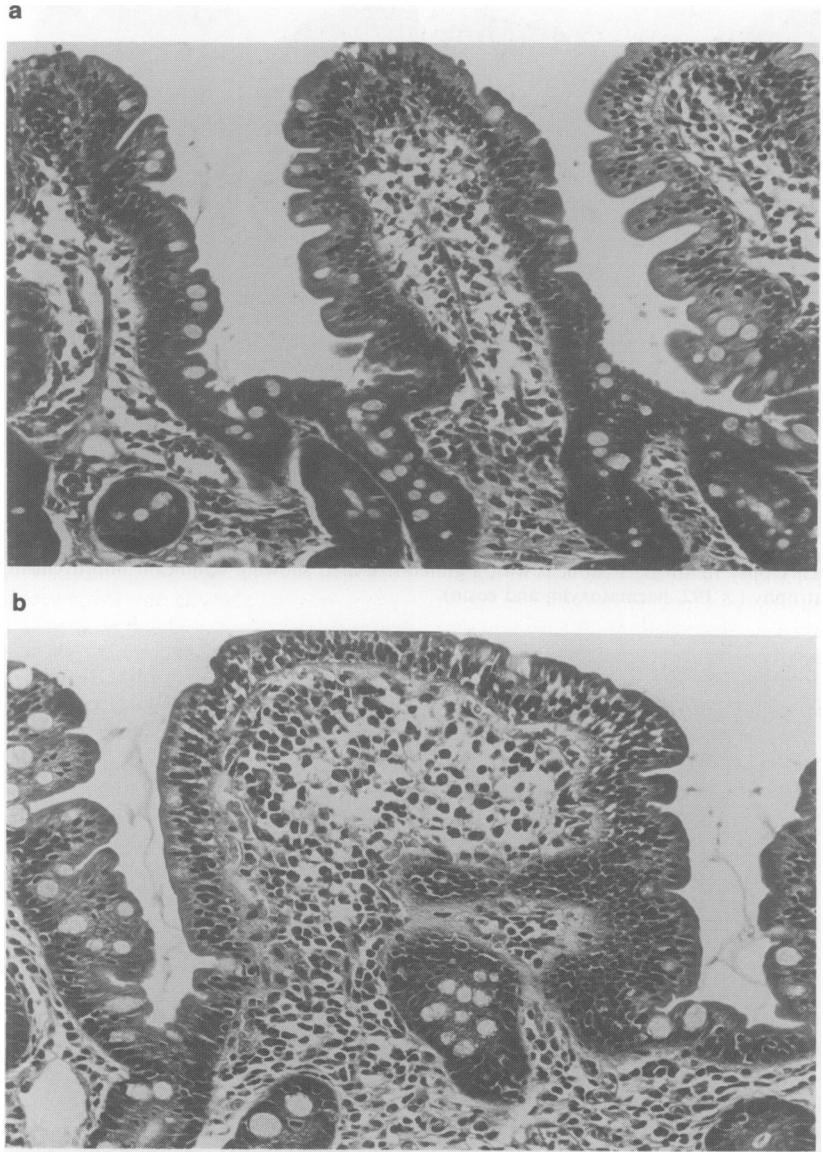

Figure 1 Initial jejunal biopsy, showing stunted villi, crypt hyperplasia, and an increased number of intraepithelial lymphocytes. Magnification (a) × 192 (b) × 288, haematoxylin and eosin.

varying from 18 to 27 μm, with a mild to moderate increase in the cellular infiltrate of the lamina propria (see Table I).

Discussion

Collagenous colitis is now established as a discrete disease entity. It occurs four times more commonly in women than men, and is a disease of middle and old age. The natural history of the condition is not yet clear; remission has been described,[5] either spontaneously or in response to treatment.

The histological hallmark of collagenous colitis is the thick layer of collagen deposited beneath the epithelial basement membrane. Subepithelial collagen may be found in normal individuals and in some patients with other forms of colitis, but its thickness is usually less than 5 μm.[6]

The aetiology of the condition is unknown. The diarrhoea seems to be due to the active colonic secretion of chloride associated with passive trans-

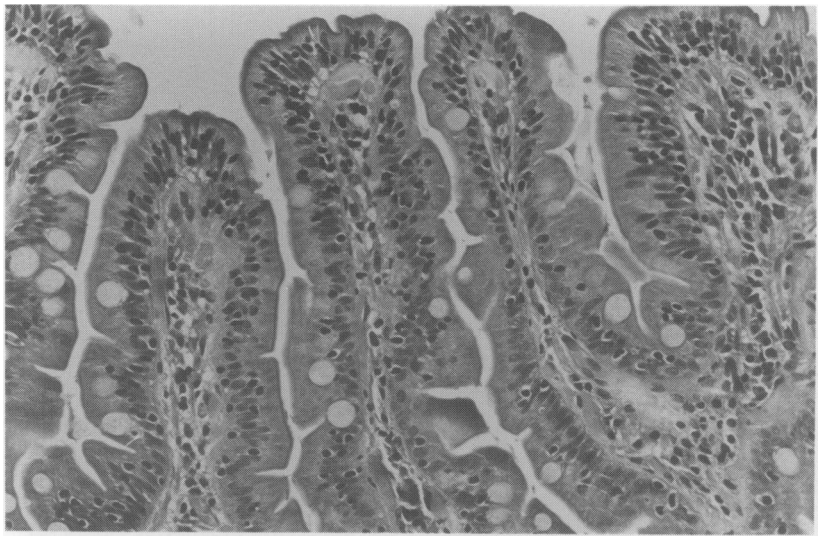

Figure 2 Jejunal biopsy following treatment with a gluten-free diet, showing significant improvement, with mild partial villous atrophy (× 192, haematoxylin and eosin).

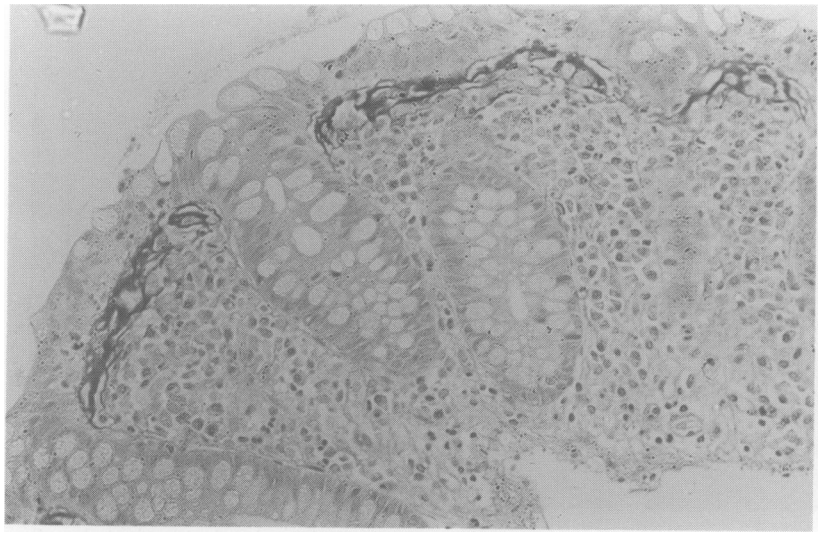

Figure 3 Rectal biopsy with dark staining subepithelial collagenous band (× 192, van Gieson).

Table I Thickness of subepithelial collagen band at various sites in the colon

Site	*Mean collagen band thickness (μm ± s.d.)*
Caecum	27 ± 11
Transverse colon	19 ± 3
Descending colon	18 ± 5
Sigmoid colon	21 ± 3
Rectum	26 ± 4

fer of sodium and water.[7]

Treatment is by and large disappointing. Response to various treatments has been reported; these include sulphasalazine,[8] steroids,[3] metronidozole,[9] and mepacrine.[5] The disease tends to resist and relapse, regardless of drug treatment.[10]

The patient we describe is the third report of collagenous colitis associated with coeliac disease. The original diagnosis of coeliac disease in our case is established by the clinical and histological response to a gluten-free diet. It is noteworthy that

collagenous colitis developed in this patient when his coeliac disease was controlled on a gluten-free diet. Thus, it is unlikely that the condition is a manifestation of colonic reactivity to gluten (unlike coeliac proctitis).[11]

Persisting diarrhoea in a coeliac patient despite dietary adherence may be due to pancreatic insufficiency, enteropathy-associated T-cell lymphoma or coexisting inflammatory bowel disease. Our case adds to the evidence that collagenous colitis should also be sought in such patients.

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