CASE REPORT

Collagenous enterocolitis manifesting as watery diarrhoea and iron-deficiency anaemia

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SUMMARY

A 56-year-old Caucasian woman presented with epigastric pain, watery diarrhoea, bloating and flatulence following treatment with duloxetine and venlafaxine for anxiety and depression. Abdominal examination was benign. Blood work revealed haemoglobin of 96 g/L (115–160 g/L), iron 6 µmol/L (10–33 µmol/L), transferrin saturation 0.08 (0.20–0.55), ferritin 26 µg/L (15–180 µg/L), albumin 46 g/L (35–50 g/L), pre-albumin 293 mg/L (170–370 mg/L), total IgA 2.64 g/L (0.78–3.58 g/L) and anti-tTG IgA 5 units (<20 units). Faecal occult blood tests were 3/3 positive and stool cultures were negative. CT enterography was normal. Colonic biopsy revealed collagenous colitis, while duodenal biopsy showed collagenous sprue with blunted to completely flattened villi and markedly thickened subepithelial collagen table entrapping capillaries and lymphocytes. The patient started a gluten-free diet, loperamide and ferrous gluconate. Her symptoms resolved and a faecal immunochemical test performed 6 months later was negative.

CASE PRESENTATION

A 56-year-old Caucasian woman presented with epigastric pain, watery diarrhoea, bloating and flatulence. She denied nausea, vomiting, anorexia, weight loss, recent travel and sick contacts. Her symptoms persisted despite a trial of bismuth subsalicylate and probiotics, which included *Lactobacillus acidophilus* and *Bifidobacterium lactis*. She denied use of non-steroidal anti-inflammatory drugs or proton pump inhibitors. Her medical history was unremarkable apart from anxiety and depression. She was prescribed duloxetine 60 mg orally once daily, which resulted in diarrhoea soon after, requiring dose reduction to 30 mg orally once daily, which resulted in resolution of diarrhoea 1 week after. She was subsequently switched to venlafaxine 37.5 mg orally once daily, which resulted in recurrence of diarrhoea, and it persisted despite discontinuation of venlafaxine. Abdominal examination was benign. Blood work revealed haemoglobin of 96 g/L (115–160 g/L), iron 6 µmol/L (10–33 µmol/L), transferrin 2.96 g/L (1.47–3.38 g/L), transferrin saturation 0.08 (0.20–0.55), ferritin 26 µg/L (15–180 µg/L), albumin 46 g/L (35–50 g/L), pre-albumin 293 mg/L (170–370 mg/L), normal liver enzymes, total IgA 2.64 g/L (0.78–3.58 g/L) and anti-tTG IgA 5 units (<20 units). Faecal occult blood tests were 3/3 positive in the presence of haemorrhoids and stool cultures were negative. CT enterography was normal. Given the history of watery diarrhoea and

Figure 1 Endoscopic examination of the colon.

iron deficiency anaemia, a colonoscopy (figure 1) was performed and revealed collagenous colitis on random colonic biopsies (figure 2). An oesophago-gastroduodenoscopy (figure 3) demonstrated gastric body mucosa with friability and several red spots that were easily washable and duodenal mucosa that appeared normal without scalloping. Gastric biopsy was negative for *Helicobacter pylori*, intestinal metaplasia or dysplasia, while duodenal biopsy showed collagenous sprue (CS) with blunted to completely flattened villi, and markedly thickened subepithelial collagen table entrapping capillaries and lymphocytes, and without intraepithelial lymphocytosis or crypt hyperplasia (figure 4). The patient was advised to start a gluten-free diet (GFD), and was prescribed loperamide 2 mg once daily and ferrous gluconate 150 mg once daily. Her symptoms resolved and a faecal immunochemical test performed 6 months later was negative.

Figure 2 Colonic biopsy revealing collagenous colitis (arrow) (H&E staining, ×10).

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Figure 3 Endoscopic examination of the stomach.

DISCUSSION

CS classically presents in middle-aged or elderly women, with persistent diarrhoea, progressive weight loss and severe malabsorption.¹ The malabsorption may be severe enough to warrant total parenteral nutrition² and, in some cases, to contribute to mortality.^{3–5} Administration of duloxetine and venlafaxine has been associated with development of collagenous ileocolitis and microscopic colitis, respectively.^{6–7} Our patient also presented with watery diarrhoea following treatment with duloxetine and venlafaxine, and required iron supplementation for her anaemia, but her presentation was atypical given her lack of weight loss.

CS is frequently associated with coeliac disease (CD); however, their relationship remains controversial.¹ Serological testing^{5–8} and human leucocyte antigen typing⁹ for CD may be positive in some cases of CS. GFD alone is usually ineffective for the treatment of CS, which often requires corticosteroids.¹ However, our patient had resolution of clinical symptoms with GFD alone, similar to several previous cases.^{2–10–11} These observations have led some to speculate that CS may be part of the coeliac spectrum, where subepithelial collagen represents a histopathological marker of poor prognosis.¹

Mechanisms of subepithelial collagen deposition have been postulated, including increased expression of fibrogenic genes

by myofibroblastic cells,¹² fibrinogen leakage through capillary endothelium,¹³ and luminal toxicity from various foods and drugs.¹⁴ Collagen deposits may also be found in gastric and/or colonic mucosa in patients with CS.¹ Our patient was found to have concomitant CS and collagenous colitis. This underscores the importance of performing both an upper and lower endoscopy to thoroughly assess the entire gastrointestinal tract for collagenous mucosal inflammatory diseases capable of resulting in life-threatening complications such as ulcerative perforation and T-cell or B-cell lymphoma.¹

Learning points

- ▶ Collagenous sprue classically presents in middle-aged or elderly women, with persistent diarrhoea, progressive weight loss and severe malabsorption.
- ▶ Collagenous sprue is frequently associated with coeliac disease; however, their relationship remains controversial.
- ▶ Collagenous sprue may result in life-threatening complications such as ulcerative perforation and T-cell or B-cell lymphoma.
- ▶ Collagen deposits may also be found in gastric and/or colonic mucosa in patients with collagenous mucosal inflammatory diseases.

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Competing interests None declared.

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Figure 4 Duodenal biopsy demonstrating blunted villi and thickened subepithelial collagen table (arrow) entrapping capillaries and lymphocytes (H&E staining, ×10).

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