Spontaneous peritonitis from perforation of the colon in collagenous colitis

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HJ Freeman, D James, CJ Mahoney. Spontaneous peritonitis from perforation of the colon in collagenous colitis. *Can J Gastroenterol* 2001;15(4):265-267. A 37-year-old woman presented with an acute abdomen following the onset of watery diarrhea. Spontaneous peritonitis was detected, along with evidence of a focal sigmoid colon perforation. Subsequent postoperative colonoscopic studies revealed collagenous colitis with a focal, deep, nongranulomatous ulcer in the sigmoid colon. Although the literature suggests that collagenous colitis tends to have a relatively 'benign' clinical course characterized by chronic or episodic watery diarrhea. Potentially serious and life-threatening complications may occur in this microscopic form of inflammatory bowel disease.

Key Words: *Collagenous colitis; Crohn's disease; Free perforation; Inflammatory bowel disease; Microscopic colitis; Ulcerative colitis*

Péritonite spontanée par perforation du côlon liée à la colite collagénique

RÉSUMÉ : Une femme âgée de 37 ans souffrait de douleurs abdominales aiguës venant à la suite de diarrhées aqueuses. On a décelé une péritonite spontanée ainsi que des signes d'une perforation focale du côlon pelvien. Des coloscopies postopératoires ultérieures ont révélé une colite collagénique ainsi qu'un ulcère focal non granulomateux profond dans le côlon pelvien. La littérature indique que la colite collagénique a tendance à suivre une évolution clinique relativement « bénigne » caractérisée par des diarrhées aqueuses chroniques ou épisodiques, mais cette forme microscopique d'infection intestinale inflammatoire peut entraîner des complications potentiellement graves, voire mortelles.

Collagenous colitis was initially described in two reports from Canada and Sweden in 1976 (1,2). Usually, it affects middle-aged to elderly women, causes watery diarrhea and is characterized histologically by a thickened subepithelial collagen table (3). Since its original description, several hundred new patients have been described. In some patients, other 'autoimmune' or extraintestinal complications, such as arthritis, have been recorded. To date, intestinal complications, such as free perforation with peritonitis occasionally seen in both ulcerative colitis and Crohn's disease, have not been reported in collagenous colitis. In a recent abstract, however, Taylor et al (4) from

Seattle, Washington described a series of several patients with colonic perforation and collagenous colitis during or following a colonoscopy or barium enema. The authors speculated that the colon in collagenous colitis may be less compliant, so that colonic distension with air or barium may cause the subepithelial collagen table to fracture, resulting in free perforation.

In the present report, a patient presented with the spontaneous development of peritonitis and evidence of perforation of the sigmoid colon. Subsequent investigations revealed a focal area of colonic ulceration, and colonoscopic mucosal biopsies revealed collagenous colitis.

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Figure 1) Colonoscopy in April 1997 showing normal-appearing colonic mucosa with the presence of a vascular pattern. Mucosal biopsies showed collagenous colitis

Figure 2) Colonoscopy in April 1997 (same of Figure 1) showing an elliptical area of ulceration

CASE PRESENTATION

A 37-year-old woman presented with an acute abdomen in March 1997. This was preceded for three weeks by watery, nonbloody diarrhea. Laparoscopy demonstrated peritonitis, but no source could be defined; therefore, an exploratory laparotomy was done. Definite thickening and an inflammatory change in the sigmoid colon were detected, but there was no diverticular disease. No small bowel or mesenteric abnormalities were identified. Free intraperitoneal purulent material was present. A single lymph node in the sigmoid mesentery was removed; pathological evaluation showed only reactive changes. The patient was given intravenous cefoxitin. After recovery from surgery and discharge from hospital, she continued to have watery diarrhea. Colonoscopy revealed normal-appearing colonic mucosa (Figure 1) except for a focal elliptical ulcer in the sigmoid colon (Figure 2). Mucosal biopsies from different sites in the colon showed collagenous colitis. No granulomatous inflammatory change was seen. She was subsequently treated with 5-aminosalicylate, and her intake of wheat, gluten, milk and other dairy products was restricted until her diarrhea was resolved. A small intestinal biopsy was offered to the patient while she was on a normal diet to exclude occult celiac disease, but she refused. No further diarrhea or other gastrointestinal symptoms have been reported, and she remains well to date (October 1999).

DISCUSSION

This patient presented with an acute abdomen and peritonitis, apparently related to spontaneous sigmoid perforation. Postoperative studies also revealed histological changes of collagenous colitis, which account for her watery diarrhea. Although other studies, particularly a small intestinal

biopsy, could not be done because the patient declined further evaluation, her presentation with spontaneous peritonitis was both dramatic and, apparently, unique. There are no prior case reports of this complication in either collagenous colitis or another form of microscopic colitis known as lymphocytic colitis. In addition, large series of patients with collagenous colitis (5) failed to identify this serious and life-threatening complication. Sudden onset of watery diarrhea and abdominal pain were frequent presenting symptoms in a series of 163 patients with collagenous colitis from 25 Swedish hospitals (5), but none had an intestinal perforation. Moreover, long term studies of large numbers of patients with lymphocytic colitis have also failed to record this complication (6). Interestingly, however, in a recent abstract from Seattle, Washington, United States (4), a series of nine patients with collagenous colitis and colonic perforation were described. Although only limited details were provided, the investigators indicated that their patients with collagenous colitis developed perforations during or following colonoscopy or barium enema examinations, possibly related to impaired colonic wall compliance with air or barium insufflation. In the present report, no procedure was performed before the patient's emergent presentation with an acute abdomen and peritonitis.

It is conceivable that a second, independent cause for sigmoid colon ulceration could have been present, with the detection of collagenous colitis being only an unrelated and coincidental finding. Many causes for isolated colonic ulcers are listed in standard texts, but these could be readily excluded by this patient's antecedent and limited clinical history, as well as the absence of any histological changes in her biopsies to suggest a second cause. In particular, Crohn's disease of the colon was considered, because spontaneous

perforation of the colon may occur in this setting (7-9). Moreover, simultaneous collagenous colitis and Crohn's disease have already been described (10). In this patient, however, there was no clinical or histological evidence for coexistent Crohn's disease.

Collagenous colitis has generally been considered a relatively 'benign' disorder with chronic or episodic water diarrhea. It has few other significant complicating clinical disorders in the intestinal tract, except for celiac disease in the occasional patient (11); colon carcinoma complicating collagenous colitis has been described in a single patient (12). Although it has been suggested that instrument-induced perforation may occur in this entity (4), the present report indicates that more serious intestinal complications may develop spontaneously in collagenous colitis.

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