Pouchitis-associated iritis (uveitis) following total proctocolectomy and ileal pouch-to-anal anastomosis in ulcerative colitis

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A 26-year-old woman with ulcerative colitis treated with a proctocolectomy and ileal pouch-to-anal anastomosis developed an erosive and ulcerative pouchitis. Although no ophthalmological manifestations were present before the staged surgical procedures, iritis developed after appearance of the pouchitis. Both conditions subsequently resolved with oral corticosteroids and metronidazole.

Key Words: *Crohn's disease; Extraintestinal complications; Ileal pouch; Ocular complication; Ulcerative colitis*

Iritis (uvéite) associée à une pochite à la suite d'une procto-colectomie totale et d'une anastomose iléo-anale pour rectocolite hémorragique

RÉSUMÉ : Une pochite érosive et ulcéralive s'est installée chez une femme de 26 ans ayant subi une procto-colectomie suivie d'une anastomose entre la poche iléale et l'anus pour une rectocolite hémorragique. Même si la patiente ne présentait pas de signes ophtalmologiques avant l'intervention chirurgicale en plusieurs temps, une iritis est apparue à la suite d'une pochite. L'administration orale de corticostéroïdes et de métronidazole a mis fin aux deux affections.

Pouchitis or reservoir ileitis is a clinical syndrome, with increased frequency of stools, sometimes bloody diarrhea, lower abdominal or pelvic discomfort, cramping pain and occasionally fever (1,2). Endoscopic biopsies are required to confirm the nongranulomatous inflammation in the pelvic pouch, although the endoscopic and histological changes detected often do not seem to correlate with the

severity of the clinical syndrome (2). The precise cause of pouchitis is not known, but some people believe that it is due to bacterial overgrowth associated with local stasis of intestinal content; it may also be related to a systemic process (2). The latter view is supported by the observation that the extraintestinal manifestations of ulcerative colitis correlate with an increased incidence of pouchitis whether

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Figure 1 Uveitis (iritis) in the patient's eye with marked swelling, erythema and sensitivity to light

the extraintestinal manifestations develop preoperatively or postoperatively (3).

The incidence of iritis has been estimated to be about 0.5% to 3.5% in patients with inflammatory bowel disease (4). The pathological changes of iritis, however, are poorly described because rapid resolution usually results from local and/or systemic steroid therapy. A single patient with granulomatous uveitis has been described with Crohn's disease (5). It has been frequently stated that the extraintestinal features of ulcerative colitis, including the ocular complications, often parallel the activity of the colonic disease (2). In the present patient with ulcerative colitis treated with proctocolectomy and pelvic pouch reconstruction, erosive and ulcerative pouchitis developed. Later, the patient developed classical iritis that completely resolved with treatment of the pouchitis and administration of oral corticosteroids.

CASE PRESENTATION

A 26-year-old female university student was first evaluated in December 1991 with endoscopically defined ulcerative pancolitis. Swelling and pain in the small joints of her hands and feet were also present. Repeated fecal studies for parasites, bacteriology and *Clostridium difficile* toxin during her evaluations up to the time of writing this article were negative. Colonoscopic mucosal biopsies demonstrated changes of extensive inflammatory bowel disease, typical of ulcerative pancolitis, with a normal ileum. She tested positive for antineutrophil cytoplasmic autoantibodies (ANCA), with an atypical perinuclear pattern and a titre of 1:320. ELISA assays for cytoplasmic, c-ANCA and myeloperoxidase antibodies were negative. Anticardiolipin antibodies (immunoglobulin G, immunoglobulin M) were in the normal range. She was treated with different oral 5-aminosalicylates and repeated courses of oral corticosteroids. She required hospitalization on two occasions in 1993 and 1994 for the administration of intravenous steroids and parenteral nutrition. In September 1994, a proctocolectomy was done with formation of an ileal J-pouch-to-anal anastomosis.

A loop ileostomy was closed in December 1994. Pathological review of the colectomy specimen revealed features of typical diffuse and extensive mucosal disease or ulcerative pancolitis. The ileal mucosa was normal, and there were no granulomas.

In 1995, she required two anal dilations for an anastomotic stricture, causing difficulty in pouch evacuation. In June 1996, she developed lower abdominal pressure-like pain and increased emptying frequency to about 10 per day from her usual frequency of five to seven per day. She had no fever or evidence of recurrence of her rheumatological symptoms suggestive of a peripheral arthropathy. Endoscopic evaluation of the pouch revealed mucosal erythema and friability with pouch ulceration. Biopsies showed pouchitis, but there were no granulomas. Treatment with metronidazole led to symptom resolution, but persistent inflammatory changes without erosions or ulcers were documented endoscopically and histologically in the pelvic pouch through 1996 and August 1997. In September 1997, the patient ceased using metronidazole and remained symptom-free for one year. In September 1998, she was evaluated by an ophthalmologist at a community hospital because of painful swelling and redness of her eye (Figure 1), as well as blurred vision and photophobia. There were no gastrointestinal complaints, apparent changes in fecal consistency or frequency of pouch evacuation. Slit lamp studies showed inflammatory cells in the anterior chamber, leading to a diagnosis of iritis. Repeat endoscopic study of the pelvic pouch confirmed the presence of mucosal inflammatory disease with erosions and ulcerations. Biopsies showed acute and chronic inflammatory changes without granulomas. Treatment with oral prednisone and metronidazole resulted in symptomatic resolution of her iritis as well as the inflammatory mucosal changes in her pelvic pouch. At her last evaluation in February 1999, she remained well.

DISCUSSION

The late complications attributed to pouchitis developing after creation of an ileal pouch-to-anal anastomosis have been enumerated in detail elsewhere (2). Conversely, the presence of extraintestinal manifestations of inflammatory bowel disease before proctocolectomy appears to be a prognostic factor for the subsequent development of pouchitis (3). In one study, for example, the presence of preoperative extraintestinal manifestations was reported to be 100% predictive of postoperative extraintestinal manifestations (6). It has been previously thought that some of the extraintestinal manifestations of chronic ulcerative colitis may be totally cured by proctocolectomy. Indeed, in some patients, severe extraintestinal manifestations have even been considered to be the main indication for surgical intervention. These manifestations have included eye changes that could lead to blindness, incapacitation from arthritis or intractable skin lesions, particularly pyoderma gangrenosum; these may prompt a proctocolectomy even if the colitis is quiescent (7). In contrast, other extraintestinal manifestations, including ankylosing spondylitis or primary

sclerosing cholangitis, may progress in spite of colonic resection or initially appear after the colonic resection has been performed for severe colonic disease (7). This suggested approach to treatment for the serious ocular complications of ulcerative colitis probably relates to earlier observational studies. Korelitz and Coles (8), for example, described 13 patients with uveitis (iritis) complicating inflammatory colonic disease. Three of these patients with ulcerative colitis had proctocolectomies. Another patient had recurrent uveitis after a subtotal colectomy and an abdominoperineal resection were done. No recurrent episodes of uveitis were reported in these four patients after follow-up for two years. It was concluded that uveitis is unlikely to recur after colectomy, and its occurrence should support other indications for colonic surgery (8). In a later report, however, Baiocco et al (9) described the development of uveitis in a patient with ulcerative colitis after proctocolectomy and creation of an ileal pouch with an ileal-rectal sleeve anastomosis. In that report, the ileal pouch was apparently not examined for specific changes – in particular, pouchitis. In a report by Knobler et al (10), pouch ileitis was reported as a complication occurring after a Koch procedure. Before proctocolectomy, pyoderma gangrenosum was observed, but there were no ocular changes. Subsequent to construction of the patient's ileal pouch, recurrent pouchitis and iridocyclitis developed that responded to steroid enema treatment alone. In the present patient, oral metronidazole initially improved her symptoms but did not lead to complete resolution of her pouchitis. This only occurred following treatment with corticosteroids administered for her iritis to avoid potential significant long term visual impairment. Late complications

of the ileal pouch-to-anal anastomosis procedure following a proctocolectomy, including extraintestinal manifestations such as iritis, will likely increase due to improved recognition and experience. Moreover, with the recent evolution of this procedure to an ileal pouch-to-distal rectum stapled anastomosis, inflammatory changes in the pouch and the residual proctitis that has not been resected may predispose patients to an even greater number of extraintestinal manifestations.

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