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LAPAROSCOPIC APPENDECTOMY

In the October 1995 issue of the *Journal* (pages 449 to 453), Karim and O'Regan reviewed a series of patients with appendicitis treated by laparoscopic appendectomy. One of the advantages of this approach to suspected appendicitis is listed as a reduction in hospital stay.

The authors are to be congratulated on the outcome of the patients in their series, but, editorially, they should be further congratulated for again demonstrating one of the most outstanding advantages of laparoscopic surgery, namely that general surgeons are revising the criteria by which they keep patients in hospital. I would charge the authors and other general surgeons to recognize that patients subjected to open appendectomy (in a manner similar to that described in the article) would, in most cases, be able to leave hospital within 48 hours of surgery and continue their convalescence in a more comfortable domestic setting. The fact that the references emphasizing hospital stay are drawn from 1975 and 1984 (before the laparoscopic alternative become available) follows the general pattern of discussion when laparoscopic surgery is promoted on account of reduced hospital-bed occupancy. Again, I would emphasize that we need to review our indications for keeping a patient in hospital and to discharge all patients whose use of the hospital as a hotel or for "babysitting" represents an irresponsible misuse of expensive facilities. The need for community services to be embellished and to provide appropriate support in the

outpatient setting is, of course, part of this overall plan.

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SEVERE POUCHITIS SUCCESSFULLY TREATED WITH SHORT-CHAIN FATTY ACIDS

Restorative proctocolectomy with an ileal pouch–anal anastomosis is now an established alternative to permanent ileostomy in patients with severe ulcerative colitis and familial polyposis coli. The functional results are generally good, but acute inflammation of the ileal reservoir mucosa (pouchitis) remains a serious and poorly understood complication, with an incidence of up to 30%.

A 48-year-old woman with a history of colectomy and mucosal proctectomy who had an ileal S-pouch–anal anastomosis for ulcerative colitis was admitted to our hospital with diarrhea, fever and bloody anal discharge. Endoscopy showed severe colitis. The mucosa was erythematous and friable, with multiple deep ulcerations. On histologic examination there was villous atrophy, crypt hyperplasia and superficial mucosal ulceration. Also, intense infiltration by plasma cells and a dense inflammatory infiltrate of lymphocytes and polymorphonuclear leukocytes were noted in the lamina propria. Microbiologic analysis of the pouch effluent excluded any infection.

The pouchitis was treated with a combination of metronidazole, 5-acetylsalicylic acid and corticosteroids rectally and sulfasalazine, 5-acetylsalicylic acid and low-dose prednisone orally but failed to alleviate her symptoms. After 10 weeks of this regimen, topical treatment was begun with short-chain fatty acids, given as enemas. The enemas contained sodium acetate (60 mmoles), sodium propionate (30 mmoles) and sodium *n*-butyrate (40 mmoles) made isotonic by the addition of sodium chloride. A 100-mL enema was instilled into the pouch twice daily, and the patient remained supine for 30 minutes thereafter. After 4 weeks of this treatment the pouchitis was cured and did not recur during 2 years of follow-up.

The definition of pouchitis should include clinical symptoms, macroscopic inflammatory lesions demonstrated endoscopically and histologic evidence of intense acute inflammation of the reservoir mucosa. The cause is unknown but appears to be multifactorial. Several mechanisms have been postulated, including recurrent inflammatory bowel disease, bacterial overgrowth or a nutritional deficiency of the pouch epithelium, especially because of a lack of short-chain fatty acids.

Wischmeyer and colleagues¹ measured the concentration of fecal short-chain fatty acids in 24 patients with ileal pouch–anal anastomosis. They found that the 11 patients who had pouchitis had only 23% of the total concentration of fecal short-chain fatty acids measured in the 13 patients without pouchitis. The concentration of propionic acid was similar in the

two groups. The concentrations of acetic and *n*-butyric acids, however, were markedly decreased in the patients with pouchitis, supporting the hypothesis that pouchitis may be the result of a deficiency of luminal short-chain fatty acids. In a more recent pilot study by Wischmeyer, Pemberton and Phillips,² in which 19 patients with pouchitis were treated with butyrate or glutamine suppositories, 6 of 10 patients who received glutamine had no recurrence of symptoms, but only 3 of 9 patients who received butyrate had no recurrence. de Silva and associates³ used short-chain fatty acids to treat two patients with pouchitis but found no improvement of mucosal ulceration histologically. In contrast, our observations support the hypothesis that pouchitis may be, in

part, the result of a deficiency of short-chain fatty acids.

We suggest that the administration of short-chain fatty acids is an alternative treatment for patients with therapy-resistant pouchitis. Current knowledge of the different metabolic properties of each class of these acids is limited. Continued research is needed to determine the full potential of short-chain fatty acids as an intestinal fuel.

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