Bowel-flora alteration: a potential cure for inflammatory bowel disease and irritable bowel syndrome?

To the Editor: The aetiology of such common gastrointestinal disorders as irritable bowel syndrome and inflammatory bowel disease remains unknown. A chronic infective cause certainly has been sought but remains unproved in the case of inflammatory bowel disease.

Our clinical observations have suggested that, in a proportion of patients, the cause of irritable bowel syndrome is a chronic gastrointestinal infection, which may present with symptoms of diarrhoea, pain, constipation or a combination of these. Such observations include: the onset of irritable bowel syndrome after dysentery; the transient relief of symptoms after gastrointestinal lavage before colonoscopy; the transient relief of symptoms during the use of metronidazole; the alleviation of chronic constipation during the use of vancomycin; the fact that symptoms in patients with chronic Clostridium difficile infection often are indistinguishable from those of the irritable bowel syndrome; and previous reports of the cure of C. difficile infection by alteration of the bowel flora.

Therefore, it follows that the source of the symptoms in patients with irritable bowel syndrome resides within the bowel lumen, almost certainly as chronic infection with a hitherto-unidentified pathogen. Without the need to identify the pathogen, it seems that patients could benefit by having the "infected" resident bowel flora removed by gastrointestinal lavage and replaced with bowel bacteria from a healthy donor, thus "crowding out" any remaining pathogens.

We now have used this approach in 55 patients who were suffering from constipation, diarrhoea, abdominal pain, ulcerative colitis or Crohn's disease. Patients were treated when other forms of therapy had failed to control their symptoms. Informed consent was obtained. After alteration of the bowel flora, 20 patients were deemed "cured," nine patients experienced a decrease in symptoms, while the condition of 26 patients failed to improve. We present here selected case histories of "cures" from each of the abovementioned classes of conditions to illustrate this novel application of bowel-flora-alteration therapy. Our range of follow-up now has been one to 12 months.

A 31-year-old woman had a history of chronic constipation that commenced at birth, with a frequency of bowel motions once per week without laxative drugs. After bowel-flora alteration, she has experienced bowel motions daily or every second day, without resort to laxative drugs and remains well at six-months' follow-up.

A 21-year-old woman was investigated thoroughly over a four-year period for severe colicky abdominal pain that required frequent hospital admissions and pain relief with narcotic drugs. Multiple investigations included endoscopy, laparoscopy and laparotomy. Five days after alteration of her bowel flora, she was pain-free and remains pain-free at four-months' follow-up.

A 35-year-old woman presented with a history of several years of diarrhoea (two-to-10 stools a day) and associated abdominal pain. The only abnormal result of investigation was a positive result of a stool latex test for the presence of C. difficile toxin. This test-result failed to become negative after a course of vancomycin and the patient underwent bowel-flora alteration with resolution of her chronic diarrhoea. Diarrhoea and pain have not recurred at one-month's follow-up.

A 45-year-old man presented with an 18-month history of ulcerative colitis and elevated liver transaminase levels. Pancolitis was confirmed on colonoscopy. Sulphasalazine therapy caused a rash, while olsalazine gave inadequate relief. The patient underwent an exchange of bowel flora, and his condition improved sufficiently to cease all treatment within days. At three months, he continues to feel well, has no diarrhoea and is not receiving any medication. His liver transaminase levels have returned to normal values. Colonoscopic examination now is normal as are examinations of mucosal biopsies.

A 31-year-old man was admitted to hospital with small-bowel obstruction, which subsequently was shown by a small-bowel barium-enema examination to be caused by Crohn's disease of the terminal ileum. This was confirmed by examination of a terminal-ileal biopsy specimen. In spite of prednisone and sulphasalazine therapy, hypoproteinaemia with ankle oedema was prominent, presumably as a result of protein-losing enteropathy. Three days after alteration of the bowel flora, his ankle oedema had disappeared and the serum protein levels had returned to normal values. He remains free of symptoms and is not receiving any therapy four months later.

The pursuit of "functional" aspects and "motility" disorders has brought at best limited relief to patients with the irritable bowel syndrome. By means of bowel-flora-alteration therapy, the resolution of symptoms in those patients who appear to be "cured" has been so dramatic that we are convinced that an infective aetiology should be pursued vigorously.

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