

- ³ Köbberling J, Bengsch N, Brüggeboes B, Schwarck H, Tillil H, Weber M. The chlorpropamide alcohol flush. Lack of specificity for familial non-insulin dependent diabetes. *Diabetologia* 1980;19:359-63.
- ⁴ Jerntorp P, Almér L-O, Melander A. Is the blood chlorpropamide concentration critical in chlorpropamide alcohol flush? *Lancet* 1981; i:165-6.
- ⁵ Jerntorp P, Ohlin H, Bergström B, Almér L-O. Elevation of plasma acetaldehyde—the first metabolic step in CPAF? *Diabetologia* 1980; 19:286.

(Accepted 5 August 1981)

Istituto di Clinica Medica Generale e Terapia Medica, Università di Parma, Parma, Italy

LUIGI CAPRETTI, MD, research fellow
GUGLIELMINA SPERONI, MD, research fellow
MARIAGRAZIA GIRONE, MD, research fellow
CARLO COSCELLI, MD, assistant professor
UGO BUTTURINI, MD, head of department

Centro Antidiabetico, Ospedale di Codogno, Milan, Italy

GIUSEPPE ROCCA, MD, director

Spirochaetosis: a remediable cause of diarrhoea and rectal bleeding?

Spirochaetes have been found in the alimentary tract and faeces of apparently healthy people.¹ In some animals similar infestation may cause an acute and often fatal diarrhoeal illness.² A review of 100 consecutive rectal biopsy specimens obtained from patients with rectal bleeding or diarrhoea showed that 10 had spirochaetosis.³ In two of these patients no other underlying cause for the symptoms could be found and it was not clear whether these organisms were just commensals. The authors suggested that antibiotic treatment in such cases may provide an answer to this problem. We describe two patients with spirochaetosis who presented with diarrhoea and rectal bleeding. Both improved after treatment with metronidazole.

Case reports

CASE 1

A 54-year-old man presented in October 1979. Since 1974 he had experienced self-limiting episodes of watery diarrhoea and rectal bleeding associated with the sigmoidoscopic and histological changes of active non-specific granular proctitis. He presented with a further episode of rectal discomfort and loose slimy diarrhoea of three weeks' duration. Physical examination was unremarkable, and stool culture and microscopy were negative. A double-contrast barium enema was normal. Sigmoidoscopy confirmed active proctitis with considerable rectal tenderness. A repeat rectal biopsy specimen showed chronic inflammatory changes. A haematophylic fuzzy border typical of intestinal spirochaetosis was seen on the surface epithelium (figure). After metronidazole 1 g by suppository twice daily for five days his diarrhoea stopped and rectal discomfort diminished. Sigmoidoscopy two months later confirmed improvement in the proctitis. Histology again showed chronic inflammation but the fuzzy border had disappeared.

During March 1980 his diarrhoea and rectal bleeding recurred. A further rectal biopsy specimen again showed a fuzzy brush border. Electron microscopy showed spiral organisms 3 µm in length and 0.2 µm diameter between the microvilli of the rectal epithelium. Transverse section on electron microscopy showed axial filaments with a rosette formation. He received a further seven-day course of metronidazole suppositories after which his symptoms disappeared. A repeat rectal biopsy specimen showed that the spirochaetal infestation had disappeared.

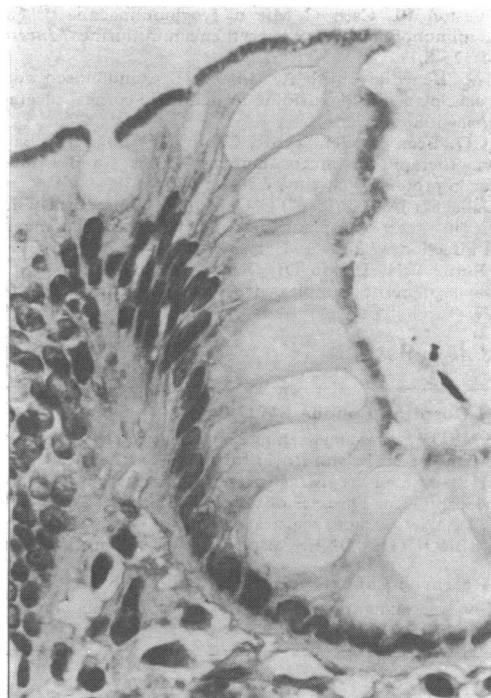
CASE 2

A 49-year-old man presented in September 1980 with a history of two weeks' watery diarrhoea that had started while he was on holiday abroad and one week's tenesmus and fresh rectal bleeding. Physical examination was satisfactory and stool culture and microscopy were negative. A double-contrast barium enema was normal. On sigmoidoscopy the rectal mucosa appeared normal. A rectal biopsy specimen showed normal histology apart from a fuzzy blue brush border over the surface epithelium (figure). Electron microscopy showed spirochaetes identical with those in case 1. Metronidazole 400 mg four times a day by mouth for 10 days abolished his symptoms. A further biopsy specimen in December showed that the spirochaetes had disappeared.

Comment

Spirochaetes often colonise the large-bowel surface epithelium and may be histologically identified as a haematophylic zone over the luminal brush border. Their staining properties, electron microscopic appearances, and ultrastructural characteristics are morphologically identical with those of the oral spirochaete *Borrelia vincentii*.¹ Rectal spirochaetosis may cause a purulent discharge⁴ but has never been shown to produce gastrointestinal symptoms. Spirochaetosis has been reported in Glasgow in 6.9% of rectal biopsy specimens.⁵ Fourteen such patients had diarrhoea or rectal bleeding, but in 12 this was attributed to some other underlying disease.

It might be argued that the symptoms in our case 1 were due to long-standing non-specific proctitis. On two occasions, however, symptomatic improvement coincided with clearing of the spirochaetal infestations while histology of the underlying rectal mucosa remained unchanged. In case 2 rectal histology was normal apart from evidence of spirochaetosis. In both cases treatment with metronidazole was associated with symptomatic relief and disappearance of the spirochaetes. Spirochaetosis, therefore, may be a readily treatable cause of acute diarrhoea or rectal bleeding and should be looked for in all rectal biopsy specimens.



Section of rectal biopsy specimen showing haematophylic zone on mucosal brush border. Haematoxylin and eosin × 1500 (original magnification).

We thank Dr J F Munro for allowing us to report case 1 and for his help with the manuscript, Dr J Nimmo for allowing us to report case 2, and Mrs M Murray for her secretarial help.

¹ Takeuchi A, Jervis HR, Nakazawa H, Robinson DM. Spiral-shaped organisms on the surface colonic epithelium of the monkey and man. *Am J Clin Nutr* 1974;27:1287-96.

² Zwicker GM, Dagle GE, Adey RR. Naturally occurring Tyzzer's disease and intestinal spirochaetosis in guinea pigs. *Lab Anim Sci* 1978;28:193-8.

³ Harland WA, Lee FD. Intestinal spirochaetosis. *Br Med J* 1967;iii:718-9.

⁴ Kaplan LR, Takeuchi A. Purulent rectal discharge associated with non-treponemal spirochete. *JAMA* 1979;241:52-3.

⁵ Lee FD, Kraszewski A, Gordon J, Howie JGR, McSeveney D, Harland WA. Intestinal spirochaetosis. *Gut* 1971;12:126-33.

(Accepted 19 August 1981)

Edenhall Hospital, Musselburgh, Midlothian EH21 7TZ

J G DOUGLAS, BSC, MRCP, medical registrar

Department of Pathology, Western General Hospital, Edinburgh EH4 2XU

V CRUCIOLI, MD, MRCPATH, senior registrar