An Interesting Finding in a Patient with Chronic Diarrhoea

Introduction

A 25-year-old man presented with intermittent self-limiting episodes of diarrhoea for 5 months. At times, he opened his bowel 8 times a day with small stool volume. His stool consistency ranged from soft to watery. Apart from a weight loss of 3 kg, no other constitutional or extra-intestinal symptoms were reported. He admitted to have multiple sexual partners in the past and had been treated for gonorrhoea but denied any drug abuse or homosexuality.

His biochemistry and full blood counts were essentially normal apart from a mildly high eosinophil count (0.8 $x10^9$/L; 10.1% of white cell count). Thyroid function test was normal. Investigations for syphilis were negative. Human immunodeficiency virus (HIV) test was not available in view of insufficient sample. Stool examination revealed no conventional pathogens and absence of ova and parasites. A colonoscopy was done which revealed inflamed mucosal wall with patchy ulcers that started from the lower rectum up to the caecum. Biopsies taken from the rectum are shown in Figures 1 and 2.

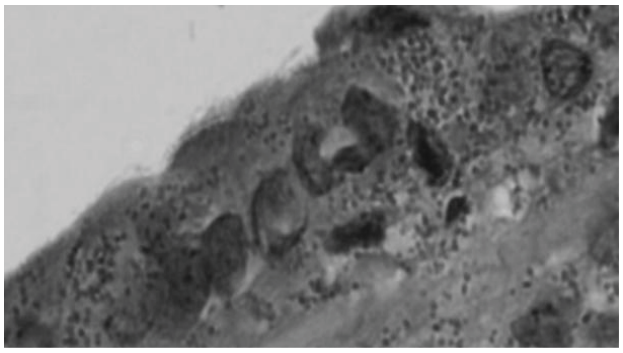

Fig. 1. Biopsy of large intestine stained with haematoxylin and eosin. A fuzzy hematoxyphilic line on the luminal surface of the enterocytes is visible (arrow head). Diffuse inflammatory infiltration was observed, predominantly eosinophils (arrow).

Based on the biopsies in Figures 1 and 2, what is the diagnosis?

A. Tuberculosis of the bowel

B. Inflammatory bowel disease

C. HIV cholangiopathy

D. Intestinal spirochetosis

E. Syphilis of the bowel

The patient was started on a 2-week course of metronidazole. Subsequent clinic visits showed dramatic improvement of symptoms. He regained back his weight loss. Repeated colonoscopy 2 weeks after completing the antibiotic course revealed minimal inflammation over the mucosal wall. Biopsies of the second colonoscopy showed a much less inflammatory cell infiltration. Repeated periodic acid-Schiff (PAS) and Warthin-Starry staining failed to demonstrate any organism on the brush border (Fig. 3).

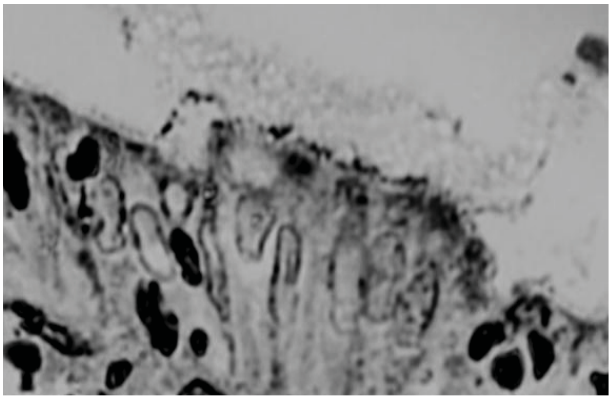

Fig. 2. A pronounced positive-reaction with Warthin-Starry stain on the luminal surface (arrow head).

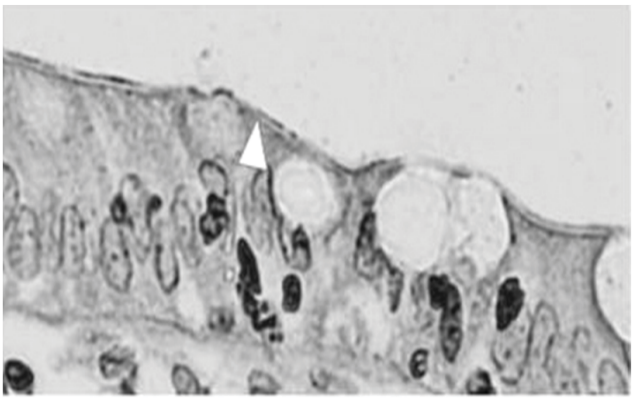

Fig. 3. No organism was identified on the luminal surface via Warthin-Starry stain (arrow head).

Answer: D

Discussion

Intestinal spirochetosis (IS) is more prevalent in males, in men who have sex with men and in HIV-infected populations. In many cases, the histological findings of IS are simply an incidental discovery during a screening colonoscopy. Symptomatic IS however, may present with symptoms ranging from diarrhoea, blood and/or mucus in stool, abdominal pain, to constipation. Majority of publications have described IS to be endoscopically normal. The diagnosis of IS heavily depends on histology.[1] Its pathognomonic histological characteristic is the presence of spirochetal microorganisms attached to the luminal cell membrane of the colorectal epithelium. This 'band-like growth' of spirochetes gives a false brush border. *Brachyspiraa alborgi* and *Brachyspira pilosicoli* are the 2 predominating microorganisms in humans.[2] Both of the organisms are slow-growing fastidious anaerobes. In symptomatic cases, especially with poor clinical symptoms (mucus in blood or weight loss), treatment might be effective.[3] Most reviews advocate a course of metronidazole between 10 and 14 days.

REFERENCES

1. Esteve M, Salas A, Fernandez-Banares F, Lloreta J, Mariné M, Gonzalez CI, et al. Intestinal spirochetosis and watery diarrhea: clinical and histological response to treatment and long-term follow up. J Gastroenterol Hepatol 2006;21:1326-33.
2. Koteish A, Kannangai R, Abraham SC, Torbenson M. Colonic spirochetosis in children and adults. Am J Clin Pathol 2003;120:828-32.
3. Peghini PL, Guccion JG, Sharma A. Improvement of chronic diarrhea after treatment for intestinal spirochetosis. Dig Dis Sci 2000;45:1006-10.

Abdul Aziz Marwan, [1]*MBBCh BAO*, Chai Soon Ngiu, [1]*MMed (UKM)*, Petrick Periyasamy, [1]*MMed (UKM)*

[1]Department of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Malaysia

Address for Correspondence: Dr Petrick Periyasamy, Department of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia.
Email: petrick.periyasamy@gmail.com