Need to treat?

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Case presentation

A 76-year-old patient presented with a two-week history of watery diarrhoea. There was no history of fever, abdominal pain nor bloody stools. Blood analysis showed inflammation (C-reactive protein of 160 mg/L, reference <5 mg/L) and a normal complete blood count. Faecal culture showed no pathogens. The patient was treated with a three-day course of azithromycin 500 mg daily without improvement. Subsequently, a colonoscopy was performed, which showed no macroscopical abnorma-lities. Randomly taken biopsies revealed a thin blue fringe on the colonic epithelium (Figure 1).

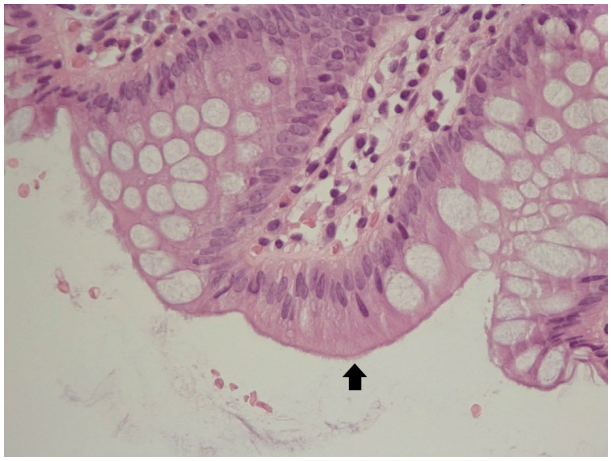

Figure 1. — Colon biopsy specimen of patient. Solid black arrow indicates the spirochetes that are attached to the colonocytes.

What is the diagnosis?

This typical fringe is pathognomonic for human intestinal spirochetosis (HIS). HIS is defined as the colonization of the large intestine by *Brachyspira* bacteria, appearing as hair-like structures on the colonocytes. The faecal culture often remains negative as these spirochetes are fastidious anaerobes. Therefore, diagnosing HIS is mainly done through histology. Despite the clear pathognomonic histology, its clinical significance remains unclear.

From one point of view – as it often concerns an incidental finding in asymptomatic patients – these spirochetes could be considered part of the 'normal' gut microbiota. Nonetheless, multiple case reports have been published over the years in which gastrointestinal symptoms were attributed to HIS. In 2022, Fan *et al.* (1) published a meta-analysis that suggested diarrhoea, abdominal pain, bloating and rectal bleeding as the most reported symptoms. Moreover, the authors suggest a possible association between HIS and diarrhoea predominant irritable bowel syndrome (IBS). Treatment with metronidazole did result – with varying success – in clinical improvement and clearance of the spirochetal layer. Yet, this clearance did not always coincide with the resolution of the symptoms. Furthermore, the existing data showed a substantial risk of symptom relapse.

To conclude, asymptomatic patients with HIS do not need treatment nor follow-up. Patients with a history of acute diarrhoea can be managed first with a wait-and-see policy, similar to most bouts of infectious diarrhoea. There may be a potential role for diagnosing and treating HIS in patients with diarrhoea predominant IBS, but further large-scale studies are needed.

Conflict of interest

There are no conflicts of interest to disclose.

References

1. FAN K., ESLICK G. D., NAIR P. M., BURNS G. L., WALKER M. M., HOEDT E. C., *et al.* Human intestinal spirochetosis, irritable bowel syndrome, and colonic polyps: A systematic review and meta-analysis. J Gastroenterol Hepatol, 2022, 37(7): 1222-1234.

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