

# Images in GI Infection: Intestinal Spirochetosis

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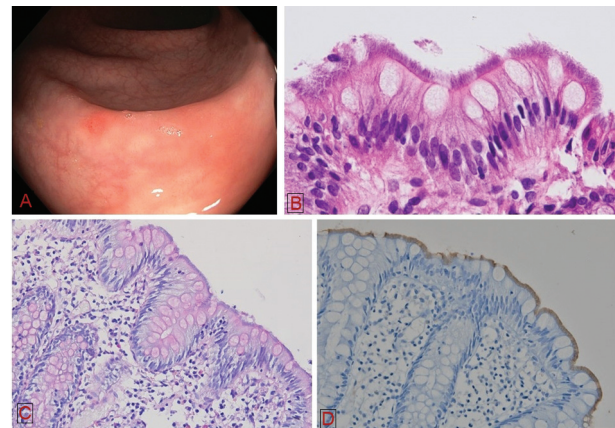
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This 32-year old gentleman presented to us with history of intermittent pain abdomen and mildly increased frequency of loose stools (3/day) for past 1 year. He had been evaluated elsewhere with gastroduodenoscopy showing mild antral gastritis and a computed tomography imaging of abdomen showing sigmoid colon wall thickening. Physical examination was otherwise normal with no specific skin or neurological finding. We evaluated for stool *Helicobacter pylori* antigen which was negative and fecal calprotectin which was raised (470 µg/g). For suspicion of inflammatory bowel disease, an ileocolonoscopy was done which showed few small erythematous lesion and patchy loss of vascular pattern in descending and sigmoid colon (→ Fig 1A). As rest of the mucosa appeared normal, we took segmental biopsies from ileum, cecum/ascending colon, transverse colon, descending colon, and rectosigmoid. The histopathology report was suggestive of diffuse spirochetosis in colon (→ Fig 1B–D). The diagnosis of spirochetosis was further confirmed by periodic acid-Schiff stain and immunohistochemistry for *Treponema pallidum*. Intestinal spirochetosis is incidentally diagnosed clinical condition in colonic biopsies.<sup>1,2</sup> The most common symptomatic presentation is with pain abdomen and chronic diarrhea.<sup>1,3</sup> The course and symptoms are usually mild to moderate but severe disease evolutions have been reported. The most commonly associated spirochetes are *Brachyspira species*. The colonoscopy findings are nonspecific and may present as raised lesion, erythematous patch, or with normal mucosa. The diagnosis is made by typical histological picture of band like multiple spirochetes on colonic mucosa (3–6 µm) which can be better appreciated at higher magnification on routine microscopy.<sup>1–3</sup> Warthin–



**Fig. 1** (A) Colonoscopy white light imaging. (B) Colonic biopsy slides hematoxylin and eosin (HE) ×1000. (C) Colonic biopsy slides in periodic acid-Schiff (PAS) stain showing positivity for spirochetes (PAS stain; ×400). (D) Immunohistochemistry for *Treponema pallidum* is positive (peroxidase; ×400).

Starry staining and immunohistochemistry with *Treponema pallidum* can further be used to confirm the diagnosis. Patient was treated with oral metronidazole 400 mg four times a day for 10 days after which he showed symptomatic improvement in pain abdomen, normalization of stool frequency (1/day), and fecal calprotectin. Repeat colonoscopy and biopsy to document eradication is not required.<sup>1</sup>

## Ethical Statement

Informed consent to publish was obtained.

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**Author Contributions**

A.S. and M.P. wrote the initial draft. S.M. and A.K.S. reviewed and approved the final manuscript.

**Data Availability Statement**

All relevant data are provided in the work.

**Funding**

None.

**Conflict of Interest**

None declared.

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None.

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