

Hookworm Infestation Causing Severe Anemia: An Endoscopic Diagnosis

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A 46-year-old man presented to our facility with the complaint of generalized weakness and easy fatigability for last the 3 months. On examination, the patient had moderate pallor without any icterus, lymphadenopathy, or hepatosplenomegaly. The rest of the systemic examination was unremarkable. Laboratory investigation revealed microcytic hypochromic anemia (hemoglobin of 7.2 gm/dL). The stool for ova, parasite, and cyst were negative. The test for occult blood in stool was positive. The serum iron profile revealed a low ferritin (9 ng/mL; reference range: 24–336) and transferrin saturation (6%; reference range: 15–50). To evaluate the etiology of anemia, an upper gastrointestinal endoscopy was performed, which revealed a few hookworms adhered to the mucosa of the second part of the duodenum (Fig. 1 and Video 1). A single worm was removed with biopsy forceps. Microbiological examination with proper preparation confirmed it to be a hookworm with ingested red blood cells inside its lumen. A full-length colonoscopy was carried out, which did not reveal any abnormality. He was treated with albendazole and was started on hematinics. There was a remarkable improvement in symptoms on a 1-month follow-up (hemoglobin of 12.1 gm/dL).

Hookworm infestations are often observed in rural regions, especially among individuals who labor in fields without wearing shoes, as the infection typically occurs when the third-stage larvae (the parasite's infective stage) penetrate intact skin

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exposed to contaminated soil.¹ The severity of the infection varies depending on the level of infestation, with mild cases often being asymptomatic and moderate or higher infestations leading to

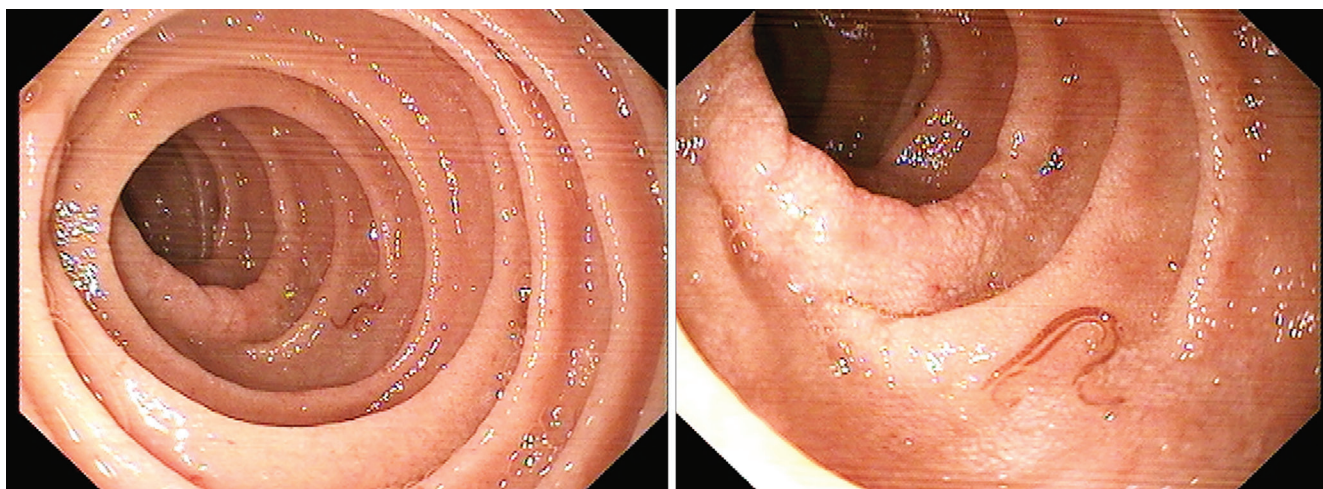


Fig. 1: Upper gastrointestinal endoscopy showing a few hookworms adhered to the mucosa of the second part of duodenum

anemia. The two main species of hookworms that infect humans are *Ancylostoma duodenale* and *Necator americanus*.² These parasites primarily dwell in the small intestine, where they attach themselves to the mucosa and feed on the host's blood, potentially leading to chronic blood loss and iron deficiency anemia.³ In regions where hookworm infestations are endemic, it is vital for healthcare providers to be aware of the potential complications associated with these parasites, including severe anemia. This report highlights the importance of considering hookworm infestations in the differential diagnosis of unexplained anemia, especially in regions with a high prevalence of parasitic infections.

SUPPLEMENTARY MATERIAL

All the supplementary materials are available online on the website <https://www.apibpj.com/>.

Video 1: Video of upper gastrointestinal endoscopy showing a few hookworms adhered to the mucosa of the first part of duodenum.

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