Hookworm infestation of the small intestine: an unusual cause of obscure gastrointestinal bleeding

Hookworm is one the most common infections of humans, occurring in up to 740 million people [1]. The highest prevalence of hookworm occurs in sub-Saharan Africa, followed by Southeast Asia and the Indian subcontinent [2]. Hookworm infection in humans is caused by soil-transmitted helminths, mostly *Ancylostoma duodenale* and *Necator americanus*. Patients with a light hookworm infection are usually asymptomatic, but a moderate or heavy hookworm burden can result in nausea, fatigue, palpitations, and recurrent abdominal pain [3]. The most common laboratory findings are eosinophilia and iron deficiency anemia resulting from chronic occult blood loss [1,3]. However, patients with hookworm infec

Figure 1  a Endoscopic view showing one reddish worm grazing in the third portion of duodenum with adjacent multiple erosions. b Endoscopic view showing another worm grazing in the proximal jejunum.

Figure 2  Closer endoscopic view showing one worm feeding on the intestinal mucosa with a hemorrhagic spot at point of attachment to the mucosa.

52 %), a mean corpuscular volume of 72/μL (normal: 80 – 94/μL), and a white blood cell count of 14 500/mm³ (normal: 4800 – 10 800/mm³) with 9 % eosinophil (normal: 0 – 4%). Serum iron was 19 μg/dL (normal: 33 – 167 μg/dL), ferritin was 17.6 ng/mL (normal: 21.8 – 274.6 ng/dL), and total iron binding capacity was 356 μg/dL (normal: 259 – 402 μg/dL). Stool examination was negative for ova or parasites. Fecal occult blood test result was positive. Routine upper gastrointestinal endoscopy and colonoscopy failed to detect any bleeding site. The patient underwent push enteroscopy, demonstrating several reddish worms grazing in the third portion of duodenum and the proximal jejunum (Figure 1a, b). Closer endoscopic view showed one worm feeding on the intestinal mucosa with a hemorrhagic spot at point of attachment to the mucosa (Figure 2). Three worms were removed with biopsy forceps and were identified on microscopic examination as hookworm, *N. americanus*. Mebendazole, 100 mg twice daily, was administered for 3 days. No more melena occurred. Serial stool occult blood examinations remained negative over the ensuing 3 months of follow-up.

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References


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