

## An Unexpected Etiology for Abdominal Pain and Diarrhea in an Argentinian Immigrant

Olga Kaplun, MD,\* Zeena Lobo, MD,† and George Psevdos, MD†

**Key Words:** strongyloides

(Infect Dis Clin Pract 2020;00: 00–00)

### CASE HISTORY

A 75-year-old immigrant woman from Argentina with history of chronic lymphocytic leukemia was recently diagnosed with retinal toxoplasmosis and was initiated on antitoxoplasmosis treatment along with steroid therapy, 1 mg/kg of prednisone per day. She presented in our hospital 1 week prior with febrile illness, maximum temperature of 102°F and headache. The cerebrospinal fluid analysis showed a positive India ink stain, and the culture confirmed *Cryptococcus neoformans* infection. One week into her hospitalization, she complained of abdominal pain, had decreased appetite, and had an episode of nonbilious emesis and nonbloody diarrheal bowel movements. Her temperature was 99.8°F. On physical examination, there was epigastric tenderness to deep palpation with normoactive bowel sounds. White blood cell count was 9600 cells/mm<sup>3</sup> with 56% polymorphonuclear cells, 23% lymphocytes with 12% blasts, and 2% eosinophils. The stool ova and parasites are shown in Figure 1. The patient first underwent a radiographic small bowel series which showed gastritis, duodenitis



FIGURE 1. Rhabditiform larva of *S. stercoralis* wet mount of stool.

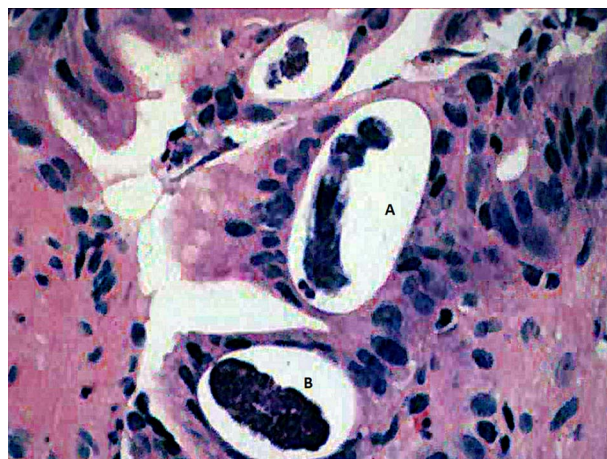


FIGURE 2. Stomach biopsy, hematoxylin and eosin stain. A, Adult worm of *S. stercoralis*. B, Larval form.

and enteritis. An upper endoscopy was subsequently performed. It revealed severe erosive esophagitis involving the distal two thirds of the esophagus, severe gastritis, and duodenitis. The histopathology of the stomach biopsy is depicted in Figure 2.

What is the diagnosis?

Gastric Strongyloidiasis

The stool ova and parasites showed rhabditiform strongyloides larvae (Fig. 1). The gastric histologic evaluation showed adult strongyloides worms and larvae burrowed in the gastric crypts (Fig. 2). *Strongyloides stercoralis* is an intestinal nematode that affects millions of people worldwide. Latin America, especially Argentina, has high prevalence of the disease.<sup>1</sup> *Strongyloides* is also known by its unique ability to exist inside the host for a prolonged period, even years, via an autoinfective cycle. Healthy individuals do not show signs or symptoms of the autoinfection. Impaired cell-mediated immunity, as it occurs owing to steroids for example, can give rise to severe forms of the disease, disseminated and hyperinfection syndrome. The latter syndrome can be classified into gastrointestinal and extraintestinal disease. Other risk factors for hyperinfection syndrome besides corticosteroid therapy include transplantation, old age, alcoholism, human immunodeficiency virus 1, and human T-cell lymphotropic virus-1 infection. Gastric or gastrointestinal strongyloidiasis after corticosteroid therapy in immigrants (from endemic to nonendemic regions) has been reported.<sup>2,3</sup> Our patient grew up in Argentina before migrating to the United States. The high-dose corticosteroid therapy she received led to different infectious complications. It also may have explained the low eosinophil count. Peripheral eosinophilia (>600/mL) is common in acute phase of the disease but tends to be lower in immunosuppressive conditions including corticosteroid administration.<sup>4</sup> Treatment for strongyloidiasis was weight-based ivermectin at 200 mg/kg orally for 2 days. A repeat

From the \*Division of Infectious Diseases, Stony Brook University Hospital; and †Division of Infectious Diseases, Veterans Affairs Medical Center, Northport, NY. Correspondence to: George Psevdos, MD, Division of Infectious Diseases, Veterans Affairs Medical Center, Northport VAMC, 79 Middleville Rd, Northport, NY 11768. E-mail: george.psevdos@va.gov. The authors have no funding or conflicts of interest to disclose. Copyright © 2020 Wolters Kluwer Health, Inc. All rights reserved. ISSN: 1056-9103

dose was planned at 2 weeks to ensure eradication, but the patient succumbed owing to multiple organ failure.

### REFERENCES

1. Puthiyakunnon S, Boddu S, Li Y, et al. Strongyloidiasis — an insight into its global prevalence and its management. *PLoS Negl Trop Dis*. 2014; 8:e3018.
2. Mohamed R, Hamodat MM, Al-Abbadi MA. Gastric strongyloidiasis: report of 2 cases and brief review of the literature. *Lab Medicine*. 2017;38: 93–96.
3. Briasoulis A, Psevdos G. Prompt diagnosis and treatment of strongyloidiasis in a renal transplant recipient. *South Med J*. 2011;104:72–73.
4. Berger R, Kramman S, Paciotti M. Pulmonary strongyloidiasis complicating therapy with corticosteroids. Report of a case with secondary bacterial infections. *Am J Trop Med Hyg*. 1980;29:31–34.