Atypical Schistosomiasis and Strongyloidiasis Enterocolitis Mimicking Inflammatory Bowel Disease

To the Editors:

Neglected tropical parasitic infections are a major health problem worldwide, particularly in developing countries, due to poor hygiene and contaminated food and water sources.[1] Global human migration may promote the expansion of several helminthiases in nonendemic countries. In Southern Europe, especially in the Mediterranean region, intermediate hosts may pose a new public health threat.[1]

We present an atypical parasite coinfection mimicking inflammatory bowel disease (IBD) in a 14-year-old boy from São Tomé and Príncipe living in Portugal for the last 3 months. In São Tomé and Príncipe, he lived in rural areas, lacking safe drinking water or sanitation, and often swimming in stagnant waters.

He had a 2-year history of recurrent diffuse abdominal pain, unquantified weight loss and bloody diarrhea, without other symptoms. Physical examination showed malnourishment and abdominal distension with diffuse tenderness. Laboratory findings revealed microcytic anemia (9.1 g/dL); thrombocytopenia (103,000/μL); normal white blood count without eosinophilia; hypoalbuminemia (21.6 g/L); elevated ferritin (402 ng/mL) and C-reactive protein (38 mg/L); normal liver enzymes, kidney function, immunoglobulins and coagulation tests.

Stool culture and ova/parasite examination were negative. Fecal calprotectin (1090 μg/g) was elevated. Autoimmune studies (anti saccharomyces cerevisiae antibody, antineutrophil cytoplasmic antibodies) and interferon gamma release assay were negative. Serologies were negative, including for HIV, *Strongyloides and Schistosoma.* Abdominal ultrasonography revealed mesenteric lymphadenitis.

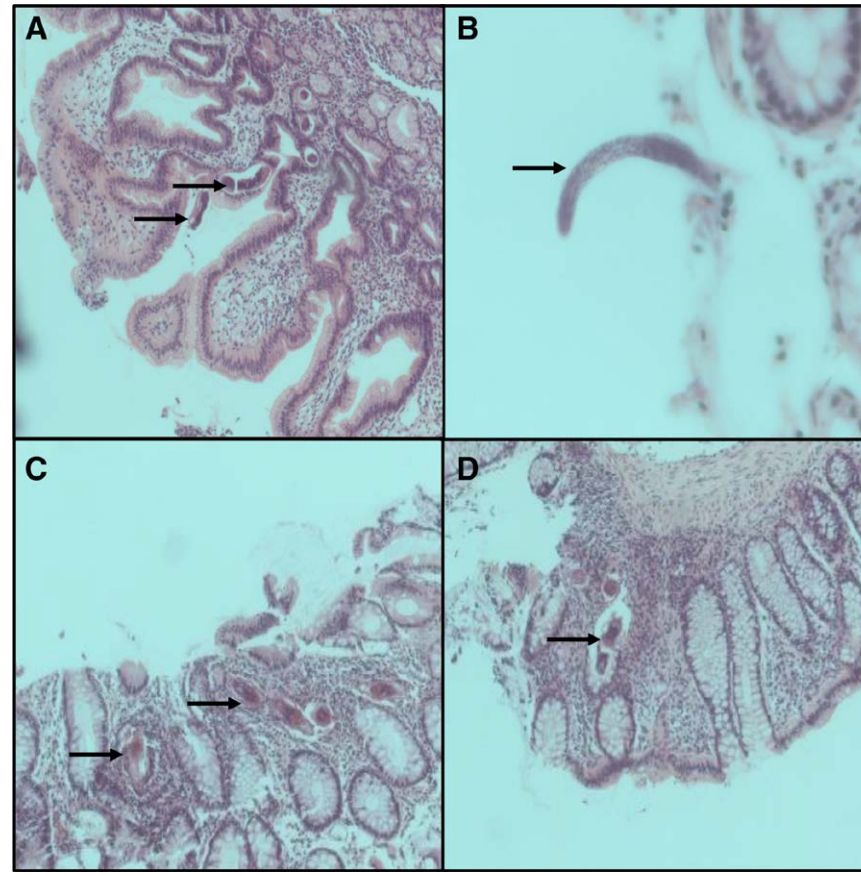

FIGURE 1. Histopathology images of *Strongyloides stercoralis* and *Schistosoma* infectious enterocolitis, stained on hematoxylin and eosin with ×40 magnification. *S. stercoralis* was observed in the duodenum, transverse colon and rectum whereas *Schistosoma* eggs in the ileum, descending colon and rectum. A: Signs of duodenitis, pseudopyloric metaplasia, chorion inflammation with eosinophils and *S. stercoralis* larvae identification. B: Colon focal ulceration, neutrophils, eosinophils infiltration; giant multinuclear cells with *S. stercoralis* larvae. C and D: Visualization of *Schistosoma* eggs on both colon chorion and submucosa.

Endoscopy demonstrated duodenal mucosal edema, decreased folds, ileal hyperplasia, aphthoid erosions and hemorrhagic suffusions. On biopsies, molecular biology studies excluded *Mycobacterium tuberculosis complex*, *Cytomegalovirus*, *Tropheryma whipplei* and *Giardia intestinalis*. Histopathology (Fig. 1) confirmed infectious enterocolitis with *Strongyloides stercoralis* larvae and *Schistosoma* eggs with terminal spines, stained with Ziehl-Neelsen.

He was treated with praziquantel and ivermectin without adverse reactions. Magnetic resonance imaging enterography excluded IBD. After 1 month, he was asymptomatic, with normal calprotectin and laboratory data. Stability persisted at the 1-year follow-up.

As highlighted, helminthiasis diagnosis may occur years after onset and leaving the endemic country.[1,2] Also, coinfection is not uncommon.[1,3] The diagnosis is challenging without gold standards or laboratory markers. Eosinophilia is nonspecific, and stool microscopy exhibits low sensitivity.[1–3] Serologies, although unable to distinguish active from past infection, present higher sensitivity/specificity. However, in natives, cumulative exposure decreases their immune response, explaining our negative results.[1–3] Stool molecular tests (unavailable) promise higher diagnostic rates.[2]

Histology (Fig. 1) was the key to diagnosis, ensuring the highest diagnostic accuracy.[4] As helminthiasis manifests as intestinal inflammation with eosinophilia, like autoimmune conditions,[4] they mimic IBD histological and clinical findings.[4] In endemic areas, they may overlap active IBD in 12%,[5] which was excluded in our patient by mucosal involvement description, normal magnetic resonance imaging and the

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All the authors contributed actively to the design, writing of the manuscript, revisions, and supervision.
Address for correspondence: Bárbara Martins Saraiva, MD, Pediatric Infectiology Unit, Hospital Dona Estefânia, Local Health Unit of São José, Rua Jacinta Marto, 1169-045 Lisbon, Portugal. E-mail: barbara.saraiva@ulssjose.min-saude.pt.

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observation of larvae/eggs. Besides *S. stercoralis* larvae, S*chistosoma* eggs exhibited terminal spines stained with Ziehl-Neelsen, characteristic of *Schistosoma guineensis*.[4] In Central/West Africa, including São Tomé and Príncipe, *S. stercoralis* is endemic,[2] as well as *S. guineensis* (formerly *Schistosoma intercalatum)*, with *Bulinus* snail as an intermediate host (present in the Mediterranean).[1]

Overall, epidemiologic vigilance is crucial as parasitic infections emerge in Southern Europe. Diagnostic challenges arise as severe atypical symptoms resemble those of noninfectious conditions.

Bárbara Martins Saraiva, MD*
Beatriz Sousa Nunes, MD*
Ana Margarida Garcia, MD*†
Filipa Santos, MD‡
Pedro Manuel Ferreira, BSc§
Silvana Belo, PharmD§
Catarina Gouveia, MD*†
Luís Varandas, MD*†§
*Pediatric Infectiology Unit, Hospital Dona Estefânia, Local Health Unit of São José, Lisbon, Portugal
†NOVA Medical School, New University of Lisbon, Lisbon, Portugal
‡Pediatric Gastroenterology Unit, Hospital Dona Estefânia, Local Health Unit of São José, Lisbon, Portugal
§Global Health and Tropical Medicine, GHTM, Associate Laboratory in Translation and Innovation Towards Global Health, LA-REAL, Instituto de Higiene e Medicina Tropical, IHMT, Universidade NOVA de Lisboa, UNL, Lisbon, Portugal

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