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Enterobius vermicularis infection mimicking strongyloidiasis: A case report

Dear Editor,

Enterobius vermicularis infections mainly affect school-children with the prevalence varying from 0.2% to 28%, but the delay in diagnosis of enterobiasis in adulthood may be derived not only from the lower prevalence but also from the lower diagnostic yield of stool microscopy.[1,2] We herein reported an adult patient of *E. vermicularis* infection with the presentation similar to hyperinfection syndrome of strongyloidiasis.

A 52-year-old woman with untreated hypertension, diabetes mellitus, and chronic hepatitis B virus infection presented to our hospital with fever and consciousness change. Two weeks before the current presentation, she developed progressively decreased appetite and general weakness. Laboratory evaluations on admission showed leukocytosis (32,200 cells/mm^3) with neutrophilia (89%) and normal eosinophils, anemia (9.3 g/dL), thrombocytopenia (50,000 cells/mm^3), hyperbilirubinemia (total bilirubin, 5.3 mg/dL), and pyuria and bacteriuria on urinalysis. The analyses of a cerebrospinal fluid specimen were negative for central nervous system (CNS) infection, so were the tests for leukocytes and ova in the stool specimen. A chest radiograph and computed tomography (CT) of the brain were unremarkable. CT of the abdomen and pelvic regions showed gas formation within the right kidney and lower rectal obstruction with much fecal material. A urine culture yielded *Escherichia coli*, whereas blood cultures yielded both *E. coli* and *Streptococcus agalactiae*. A diagnosis of emphysematous pyelonephritis and bacteremia was made and intravenous ceftriaxone was administered; however, the patient's condition did not improve.

Her persistent lack of appetite and lower rectal obstruction prompted colonoscopy, which showed a large amount of motile whitish 1-cm worms with surrounding edematous and ulcerative mucosa in the descending colon (Fig. 1A). A diagnosis of nematode infection due to *Strongyloides stercoralis* or *E. vermicularis* was made, and

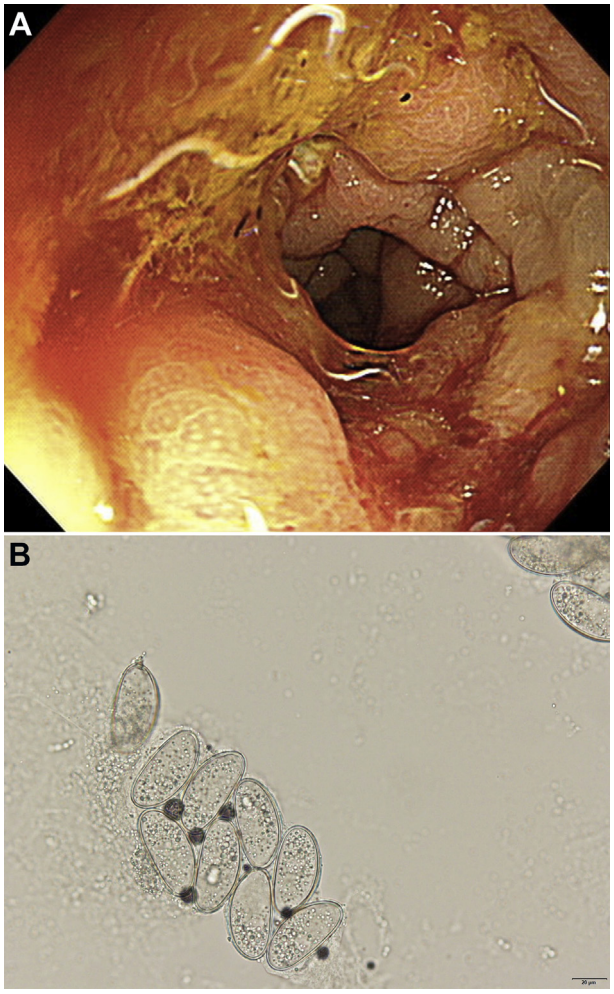

Fig. 1. Colonoscopy showed numerous adult worms measuring 1 cm with surrounding colonic ulcers (A), and stool microscopy showed ova of *E. vermicularis* with a thin shell, appearing flattening on one side and convex on the other (B).

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the patient was treated with ivermectin (200 μg/kg for 2 consecutive days). One day after antihelminthic treatment, numerous dead worms passed in the feces. Both the microscopy of stool specimens and pathological examination of colonoscopic biopsy disclosed gravid female of *E. vermicularis* containing ova. The ova measured around 60 μm × 25 μm with flat at one side and convex at the other (Fig. 1B). All the symptoms resolved gradually during subsequent three-month follow-up, and the colonoscopy one month later showed healing ulcers without pinworms.

The symptoms of enterobiasis include perianal pruritus, intestinal ulceration, and infrequent ectopic infections such as appendicitis.[1] In our patient, the findings of bacteremia and poor consciousness suggestive of CNS infection may lead the clinicians to consider *S. stercoralis* infection, while the absence of perianal pruritus may cause a delay in the consideration of *E. vermicularis* infection.[3] Although the relationship between *E. vermicularis* infections and secondary bacteremia has never been reported in previous literature, the pathogenesis similar to *S. stercoralis* infections may be postulated as a consequence of translocating enteric bacteria through *E. vermicularis*-related intestinal ulcers. While the adhesive cellophane tape pressed against perianal skin gives a higher yield of positive results compared to the routine stool examination, endoscopy has also been an informative diagnostic procedure for those patients having relevant symptoms but without positive results to differentiate nematode infections.[4,5]

Declaration of interests

All authors have no potential conflict of interest.

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