Incidental Detection of *Strongyloides stercoralis* in a Routine Cervicovaginal Smear

Sir,

*Strongyloides stercoralis* is a human intestinal nematode that causes a common parasitic disease in tropical and subtropical areas. Most patients become chronically infected with *S. stercoralis* but remain asymptomatic. Hyperinfection syndrome with *S. stercoralis* describes the syndrome of accelerated autoinfection and large parasite load in the host. It often occurs in patients with compromised immune systems.[1] Here, we present the case of a young female whose routine cervicovaginal smear revealed three rhabditiform larvae of *S. stercoralis*.

The patient was a 32-year-old woman who presented with lower abdominal pain since 2 weeks. Her complete blood counts and other biochemical investigations were within normal limits. A cervicovaginal smear was done as part of the work-up. The smear was stained with Papanicolaou stain. The smear was satisfactory for evaluation and negative for intraepithelial lesion or malignancy. However, three rhabditiform larvae of *S. stercoralis* were identified incidentally. They were short with a stout anterior end, which represents the buccal cavity, and a tapering posterior end [Figure 1]. The patient was immunocompetent. Two stool examinations on consecutive days were negative for *S. stercoralis*.

Humans acquire strongyloidiasis when filariform larvae in fecally contaminated soil penetrate the skin or mucous membranes. The larvae then travel through the bloodstream to the lungs, where they break into the alveolar spaces, ascend the bronchial tree, are swallowed, and thereby reach the small intestine. There the larvae mature into adult worms that penetrate the mucosa of the proximal small bowel. The minute (2-mm-long) parasitic adult female worms reproduce by parthenogenesis; adult males do not exist. Eggs hatch in the intestinal mucosa, releasing rhabditiform larvae that migrate to the lumen and pass with the feces into soil. Alternatively, rhabditiform larvae in the bowel can develop directly into filariform larvae that penetrate the colonic wall or perianal skin and enter the circulation to repeat the migration that establishes ongoing internal reinfection. This autoinfection cycle allows strongyloidiasis to persist for decades without further exposure of the host to exogenous infective larvae. In immunocompromised hosts, large numbers of invasive *Strongyloides* larvae can disseminate widely and can be fatal.[2] There have been only five reported cases of *S. stercoralis* in cervicovaginal smears previously.[3-7] This is the sixth case worldwide and the third case reported from our country. In each of the five previously reported cases, only a single rhabditiform larva was identified. Ours is the first case where three rhabditiform larvae of *S. stercoralis* were detected in a single cervicovaginal smear. The presence of *S. stercoralis* in the cervicovaginal smear of our patient with no evidence of involvement of other sites probably suggests an autoinfection of the patient from a long standing asymptomatic infection acquired many years prior. This may also explain the reason for the negative stool examinations.

*S. stercoralis* is a very rare occurrence in cervicovaginal smears and can be easily mistaken for other parasites by a pathologist. A knowledge of the morphological appearance of *S. stercoralis* can prevent misdiagnosis and aid in the proper management of the patient.

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Conflicts of interest

There are no conflicts of interest.
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