

# Letter to Editor



## A Rare Case of Vaginal Enterobiasis

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Dear Sir,

*Enterobius vermicularis*, also known commonly as pinworm is the most common intestinal parasite particularly in children. It is a nematode which mainly inhabits the ileocaecal region of intestine but can be found throughout the gastrointestinal tract from stomach to anus. Ectopic enterobiasis is a rare entity with very few cases reported in literature. We report here a rare case of vaginal enterobiasis.



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## Case Report

A specimen of a tiny worm like structure from vagina of a 5 year old female was sent to our pathology department for histopathologic examination. The patient gave history of recurrent episodes of vulval itching since 4 years. There was no history of pruritis ani or gastrointestinal complaints. Her laboratory investigations showed raised eosinophil counts. Rest other laboratory investigations were within normal limits.

On gross examination, the worm measured 8 mm in length with a diameter of 0.5 mm with a striking whitish beige colour. The specimen looked most probably of a female worm as female worms are longer (length-8-12 mm) as compared to male worms (length-3-5 mm). Sections were stained with haematoxylin and eosin.

Microscopically, section revealed adult parasite showing thick cuticle, lateral alae(wings) and visible organs including intestine and ovaries. Numerous eggs were seen in the uterine reproductive system [Figure 1]. Histomorphology was consistent with *Enterobius vermicularis*. The patient was treated orally with 100 mg mebendazole twice a day for 3 days and all the symptoms

disappeared. In order to prevent re-infection, the treatment was repeated with a further two courses with three week time interval.



**Figure 1: Photomicrograph of enterobius vermicularis showing cuticular alae (protruding ridges) running along the length of the parasite (H and E, x100)**

## Discussion

Enterobius vermicularis is one of the most common of all parasitic infections in the world and is particularly common in children. The human being is the principal host and the infestation occurs after ingestion of eggs. The embryos hatch in the intestine and inhabit the cecum and adjacent gut while the gravid migrate to perianal and perineal locations at night. Transmission of infection occurs through feco-oral route after scratching perineal areas or after handling contaminated fomites. Although enterobiasis is an intestinal infection, rarely ectopic infestation by enterobius occurs in appendix [1], in the male urinary tract [2] and more frequently in the female genitourinary tract [3] where they may cause vaginitis, endometritis, salpingitis or pelvic inflammatory disease.

Female physiology favours ectopic enterobiasis as vaginal and urethral openings are in close proximity to anal opening. Very few cases of ectopic enterobiasis has been reported in the literature. Ours is one of the rarest case of pediatric vaginal enterobiasis in the absence of any gastrointestinal symptom. Only one case of pediatric vaginal enterobiasis has been reported in the past [4]. Diagnosis is by microscopic detections of adult worms or eggs.

Histologically, on cross section adult worm has a thick cuticle, lateral alae (wings) and visible organs which may include intestine and ovary/testis. Head section is rounded and contain a muscularis, esophagus, and a bulb. In females, tail section is narrow and sharply tapered and the extensive uterine reproductive system of fertilized female worm is often completely filled with eggs (more than 10,000 eggs/worm). Eggs are typically plane convex, with one flattened side and one convex side and are surrounded by a thin, hyaline, transparent shell composed of two layers of chitin.

Differential diagnosis on microscopy includes Trichuris trichura and vegetable material. Worms of trichuris trichura are longer, embedded in surface mucosa by one end and its eggs have polar plugs. In contrast to vegetable material, enterobius vermicularis has cuticle, eggs are distinctly compressed laterally and flattened on one side. Treatment is by mebendazole 100 mg orally twice a day for 3 days. In order to prevent re-infection, the treatment is repeated with a further two courses with three week time interval.

## Conclusion

Ectopic infections from enterobius result from spread of larvae from anal margin to wide variety of ectopic sites particularly in females. Recurrent vaginal enterobiasis despite complete treatment and in the absence of any gastrointestinal involvement suggests that vagina may be a potential reservoir for enterobius which supports the theory of rare ectopic enterobiasis throughout the ascending pathway of female genital tract.

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