

Enterobius Vermicularis Infestation of the Endometrium – A Cause of Menstrual Irregularity and Review of Literature

Dear Editor,

Extraintestinal manifestation of *Enterobius vermicularis* is very rare, and mostly involves the female genital tract. *E. vermicularis* is the only nematode which infests Man. The majority of infections are asymptomatic as it is of low pathogenicity. We describe the first patient to present with irregular periods caused by *E. vermicularis* infestation in the endometrial cavity.

Case summary

A 40-year-old Chinese lady presented with 6 months duration of irregular periods. She was treated symptomatically with cyclical progesterone, but without improvement. She also complained of occasional urinary leakage. Endometrial sampling by pipelle® aspiration was performed in view of the persistent irregular vaginal bleeding.

Pathology Report

Microscopic section of the endometrial sampling showed a round, degenerating adult *E. vermicularis* measuring 0.2 mm, with collapsed internal structures and an eosinophilic cuticle (Fig. 1).



Fig. 1. Microscopic section of the endometrial sampling, showing a round, degenerated adult *Enterobius vermicularis*, measuring 0.2 mm, with collapsed internal structures and an eosinophilic cuticle.

The patient was treated with a single dose of mebendazole 500 mg which was repeated 2 weeks later. At 3 months follow-up, she reported regular monthly periods and no further leakage of urine.

Discussion

E. vermicularis is one of the most ubiquitous parasites of Man worldwide, being more common in the temperate regions of Western Europe and North America, but relatively rare in the tropics.^{1,2} In fact, this is the first case report of such ectopic infestation of *E. vermicularis* from Singapore. Infection occurs by ingestion of eggs via contaminated hands or food. Mature threadworms are usually located in the lumen of terminal ileum or caecum. After fertilisation, the female threadworms migrate to the perianal region where air contact stimulates them to lay eggs. The presence of the female *E. vermicularis* causes intense itching at the perianal region. Scratching of the affected area will then transfer eggs to the fingers and assist in the transmission of the eggs, both back to the original host (autoinfection) and to others.

Extraintestinal infestations by *E. vermicularis* are rare; mostly involving the female genital tract.^{3,4} Comprehensive reviews by Symmers (1950), and Saffos and Rhatigan (1977) showed that these ectopic infestations were very rare. This was probably attributed to its low pathogenicity as it is primarily an intestinal parasite with a predilection for the vermiform appendix. However, infestations may still lead to distressing gynaecological symptoms such as irregular periods and urinary leakage as illustrated in this case. A few reported cases even described abdominal catastrophes such as ruptured tubo-ovarian abscess, chronic pelvic inflammatory disease or general peritonitis.⁵ Thus, an endometrial biopsy as part of the evaluation of persistent menstrual irregularity can identify the parasite and allow early treatment, thereby averting the rare complications of salpingeal/peritoneal involvement.

Extraintestinal *E. vermicularis* has been reported in various sites of the female genital tract. This is the first case reporting the presence of *E. vermicularis* in the endometrial cavity. The postulated mechanism involves the gravid female worms migrating from the anus over the perineum and into the vagina and genital tract.^{3,4,5} Retrograde movements of uterine muscles probably contribute to this ascending

infestation. Illustration of the presence of *E. vermicularis* in pipelle® aspiration in this case suggested the transit of the worm from the perineum to the endometrial cavity via the vagina and cervix. The prolonged symptom of irregular menses suggested that the worm may remain viable in the endometrial cavity for a substantial length of time.

Migration via the urethra to the bladder is probably the mechanism causing incontinence. However, there was no presence of the parasite in the urine examination. But, it is interesting to note that our patient's symptom of urinary leakage resolved completely after the treatment.

Experience with mebendazole treatment for extraintestinal enterobiasis is limited. In most reported cases in the literature, the patients were treated after the surgery. However, in this case, the symptoms subsided immediately with a dose of mebendazole.

Although parasitic infestation is extremely rare in Singapore, vigilance is needed in cases with persistent symptoms. A simple endometrial sampling can identify the parasite and allow early treatment, thereby averting the rare catastrophic complications of salpingeal/peritoneal involvement.

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