

Isolation of Enterobius Vermicularis from Urine of Urinary Tract Infected Girl: A Case Report and Review of Literatures

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Abstract: *Enterobius vermicularis* (pinworm) is one of the most prevalent intestinal parasites in children worldwide. Pinworms generally live in the gastrointestinal tract but ectopic sites are sometimes mentioned for these nematodes. The female *Enterobius vermicularis* migrates to the perianal area at night to deposit its eggs, but some worms find their way into adjacent orifices, most commonly the female genitourinary tract. These extraintestinal manifestations of *Enterobius vermicularis* are very rare. Infections in the pelvic area, genital and urinary tract are of these rare ectopic sites. We report a case of a 7 years old girl complaining of urinary tract infection with voiding difficulties, urgency, frequency, dysuria, nocturia, nocturnal enuresis, low back pain and perineal discomfort. On investigations, she was found to have vesical *Enterobius vermicularis*.

Background

Enterobius vermicularis (syn. *Oxyuris vermicularis*), also known as pinworm or seaton worm, is the causative agent of human enterobiasis. The disease is more prevalent in temperate regions and is facilitated by factors such as overcrowding in schools and family groupings, as well as inadequate personal and community hygiene. Although the infection is more likely to occur in lower socioeconomic groups, enterobiasis has been reported to affect virtually every level of the general population and especially children. In the greatest majority of cases, enterobiasis is asymptomatic. One common symptom is intense pruritis ani that in some patients can lead to insomnia, restlessness and irritability. Scratching may cause skin irritation, and in more serious cases, eczematous dermatitis, haemorrhage or secondary bacterial infections⁽¹⁾. Ectopic migration of *Enterobius vermicularis* often results in pinworm infestation of the female genital tract often causing granulomas of the uterus, ovary and the fallopian tubes in addition to pelvic infection⁽²⁾. Anthelmintic therapies for enterobiasis are successful and include mebendazole, albendazole and pyrantel pamoate⁽³⁾. Mass medication of affected groups reduced symptoms rapidly.

Case Presentation

A seven years old girl presented with symptoms of urinary tract infection. The patient was known to have bladder instability with repeated urinary tract infection since one year of age. She was complaining of weak stream, dribbling, urgency and urinary incontinence. At that, time investigations by general urine examination showed pyuria & bacteriuria. Ultrasound showed normal both kidneys & thick urinary bladder wall. The patient was given appropriate antibiotic according to culture & sensitivity test result in addition to anticholinergics (Oxybutinin) & was on regular follow up with good response. Later on there was a flare up of urinary tract infection with exacerbation of her symptoms and recurrence of day time wetting & nocturnal enuresis in addition to nausea, loss of appetite, vomiting and salivation during sleeping but there was no anal or vaginal itching. Laboratory investigations showed a small 7 mms whitish actively motile female pin worm in the urine sample (Figure 1), microscopic examination of urine sediment showed pyuria and bacteriuria but no ova was seen by urine or stool examination.

Discussions

Enterobius vermicularis is one of the most common intestinal parasites found in humans. They commonly infest the terminal ileum and large intestine, and are usually considered an innocuous parasite that can be easily eradicated with proper treatment. However, extraintestinal migration of worms, although very rare, may lead to severe health disorders or even death, and while most involve the female genital tract, infection of other sites has been documented, including the lungs, breast, liver, and spleen⁽⁴⁾. The relation between pin worm infestation and urinary tract infection is attributed to the hyperactivity and motility of the female worm searching for small orifices in order to pass through like the urethra to reach the urinary bladder, during this process they bring the coliform bacteria present normally in the colon and rectum to the new site which is the urinary bladder then the bacteria start to multiply and cause cystitis and urethritis⁽⁵⁾. This explains the flare up of urinary tract infection that had happened in our patient. Extraintestinal manifestation of *Enterobius vermicularis* mostly involves the female genital tract where in some cases tuboovarian abscess and generalized peritonitis with *Enterobius vermicularis* infestation occurring during late pregnancy have been reported. Therefore, ectopic enterobiasis should be considered in the differential diagnosis of pelvic infections of gynecological origin. The dead parasites and eggs deposited in ectopic sites can also be responsible for the formation of granulomas and abscesses⁽⁶⁾. In children, particularly when there are heavy worm burdens, neurological symptoms such as nervousness, restlessness, irritability and distraction may occur, and these may have influence on child growth⁽⁷⁾. In this reported case, there was a recurrence of nocturnal enuresis, which could be due to the sleeping disturbance caused by helminthic infestation in association with the increase of bladder irritability caused by urinary tract infection. In addition, the daytime wetting is probably the manifestation of the recurrence of bladder irritability caused by urinary tract infection.

Conclusion

Enterobius vermicularis is common helminthic infestation of the gastrointestinal tract. Ectopic infestation is rare. Vesical enterobiasis is very rare but is to be kept in mind in unexplained flare up of lower urinary tract infection specially if the patient under prophylactic treatment with strict follow up.

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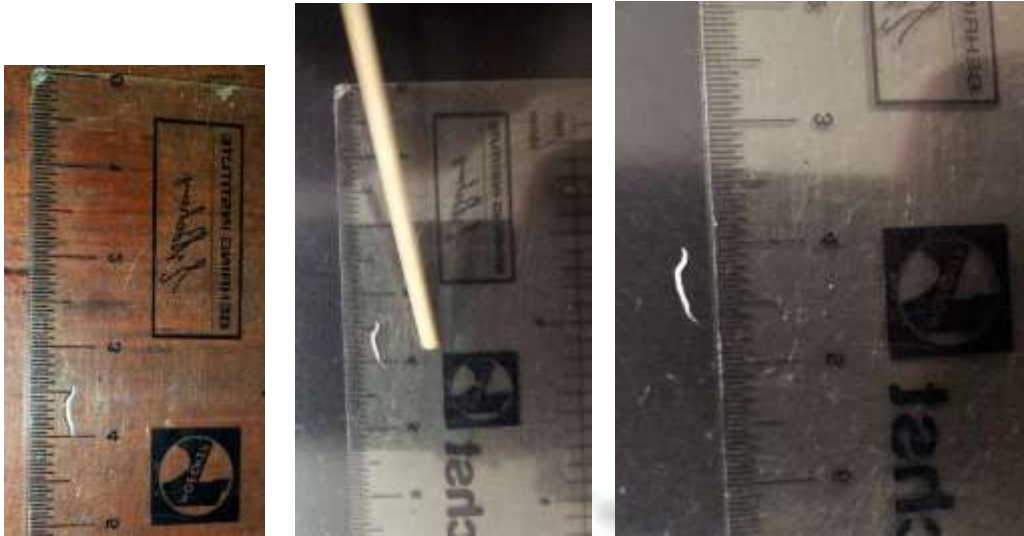


Figure - 1

