

## Prolonged Irritative Voiding Symptoms Due to *Enterobius vermicularis* Bladder Infestation in an Adult Patient

Zein Mohamed Sammour, Cristiano Mendes Gomes, Andre Luiz Farinhas Tome, Homero Bruschini and Miguel Srougi  
Division of Urology, University of São Paulo, School of Medicine; São Paulo, SP, Brazil

***Enterobius vermicularis* (pinworm) is one of the most prevalent intestinal parasites in the world. The urinary tract is rarely affected and few cases have been reported. We report a case of bladder infestation by mature female worms of *E. vermicularis* in a woman presenting with irritative voiding symptoms.**

**Key-Words:** Enterobiasis, urinary tract infection, bladder.

*Enterobius vermicularis* is one of the most prevalent intestinal parasites in the world. The urinary tract is rarely affected and few cases have been reported. We report a case of bladder infestation by mature female worms of *E. vermicularis* in a woman.

### Case Report

A 54-year-old woman presented with a history of irritative voiding symptoms for one month. She had recently been treated with norfloxacin, with no improvement. Urinalysis revealed leucocyturia, and a urine culture was negative. An abdominal CT scan showed an 8 mm stone in the distal left ureter, which was removed endoscopically. Cystoscopy was normal upon ureteroscopic stone removal. The voiding symptoms did not improve after ureterolithotripsy, and she had persistent leucocyturia despite negative urine cultures and three courses of antibiotics. A second CT did not reveal urological abnormalities. She was treated with analgesics; after two months the patient noticed two worms in her own urine and brought them to the clinic. The worms were examined in a parasitology lab and a diagnosis of mature female *Oxyurus* worms (*Enterobius vermicularis*) was made. The patient was treated with 200 mg mebendazole once a day, for three days, with complete resolution of the voiding symptoms and normalization of urinalysis. A scotch-tape test applied to the perianal and perineal areas after treatment was negative. In the follow-up after six months, the patient remained asymptomatic.

### Discussion

Enterobiasis (oxyuriasis or pinworm infection) is the most common helminth infection in the USA and Western Europe, particularly amongst school-aged children.[1] Humans are the only host for the *E. vermicularis*, which is acquired by the ingestion of infective eggs by direct anus-to-mouth transfer. Adult worms of *E. vermicularis* are usually found in the

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Address for correspondence: Dr. Cristiano Mendes Gomes. Hospital das Clinicas da Faculdade de Medicina da USP, Divisao de Clinica Urologica Avenida Dr. Eneas de Carvalho Aguiar, 255 – Sala 710F – 7 Andar – Zip code: 05403-000 – Sao Paulo – SP – Brazil. Phone: (0 55 11) 3069-8080. Fax: (0 55 11) 3064-7013. E-mail: crismgomes@uol.com.br.

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caecum and the adjacent regions of the large and small intestines. Downward migration to the peri-anal and perineal region is the common path for gravid females in their attempt to expel eggs [1]. Occasional invasion of unusual sites has been reported, most commonly the female genital tract [2,3].

The finding of eggs in the urine of children has been described in the literature; it generally occurs by autoinnoculation [4-6]. To our knowledge, only two cases of infestation of the urinary tract by adult *E. vermicularis* have been reported [7,8]. Diagnosis of intestinal pinworm infection is commonly made by a scotch-tape test applied to the perineal and perianal areas of the patient during the night, based on the finding of eggs of this parasite. Fecal exams are generally negative [1].

Mebendazole (100 mg orally in a single dose, repeated in one week) is the standard treatment for most pinworm infections. However, less than 2% of the drug is absorbed and an additional agent may be needed for the treatment of urinary infections. Ivermectin (200 µg/kg body weight, single dose) may be a good choice, given its pharmacological distribution in the urinary tract [1].

In conclusion, pinworm infection can be a differential diagnosis in patients with low urinary tract symptoms and negative urine cultures, though it requires a high index of suspicion.

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