

*Case report*

# Asymptomatic eosinophilia due to enterobiasis in a child: A case report

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## Abstract

This paper reported the case of a 6-year old child who presented with an asymptomatic eosinophilia. The diagnosis of enterobiasis was established by a Graham anal scotch test and he was successfully treated with fluoromebendazole. Subsequent control exams were negative.

**Keywords:** Enterobiasis; asymptomatic; eosinophilia

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## CASE REPORT

C. M. was a 6-year old child who was sent to consultation by his pediatrician for "Asymptomatic Eosinophilia".

His past medical history showed he had mumps and rubella. The patient was born at full term without a C-section. He had a 10-year old sister who was in good health. His family history was unremarkable and his clinical exam entirely normal.

The biological check up confirmed the eosinophilia (10% of 5,400 WBC). In the parasitological work up, the Graham anal scotch test exhibited some embryonic eggs of *Enterobius vermicularis*.

Consequently, a treatment with fluoromebendazole was prescribed: 1 tab to be taken also by the entire household with a second intake 3 weeks later. The control anal scotch test done 6 weeks later was negative and the CBC back to normal.

## DISCUSSION

\* Enterobiasis is a ubiquitous intestinal nematodosis caused by *Enterobius vermicularis*, frequent in children. It is noticeable that unlike most other parasitic diseases, it is rarer in tropical environments. Year-long high temperature and poverty lead children to walk naked and play in rivers, ponds and lakes. This gets rid of the parasite eggs and breaks the transmission cycle<sup>[1,2]</sup>.

\* Enterobiasis is often asymptomatic. Anal pruritus, which is the cardinal symptom of the disease, is due the attachment of female adult worms to the anal margin. When present, itching is usually discreet, worsening at night.

\* The differential diagnosis includes: Hemorrhoids, inter-gluteal mycoses, supra-cortical prurigo, allergies, fissures and proctitis<sup>[3]</sup>.

\* The relationship between general symptoms that mothers frequently attribute to enterobiasis, such as teeth grinding, nightmares, nervousness, etc and enterobiasis has never been proven. The same can be said for gastro-intestinal symptoms<sup>[4]</sup>.

\* Complications of enterobiasis are rare and encompass erratic migrations of the adult worm into the vagina causing vaginitis or into the bladder inducing cystitis in girls and sometimes into the appendix resulting in inflammation and possibly appendicitis in both sexes. Colonic ulceration and eosinophilic

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colitis have been reported<sup>5</sup>.

\* The incubation period of enterobiasis is 21 days.

\* The parasitological test of choice is not the parasitological stool exam, which seldom reveals the presence of *E. vermicularis* eggs but rests on the Graham anal scotch test. It is performed by applying an adhesive cellophane tape bent into a U shape to the anal margin and subsequently examining it under a microscope on a slide using low magnifying power. However, before the procedure must be taken as follows: No prior local hygiene and bowel movement. Rarely, worms are visible on the peri-anal skin or in the stools<sup>[6]</sup>.

\* *E. vermicularis* eggs are embryonated upon laying and consequently immediately infesting, which explains the direct inter-human mode of transmission by dirty hands as well as self-reinfestation occurring frequently in children<sup>[7,8,9]</sup>.

\* The eosinophilia encountered in enterobiasis has suggestive characteristics: It is undulant with peaks corresponding to reinfestations. Moreover, it rarely tops 10%. At this level, other parasitic diseases must be ruled out such as ascariasis, distomatosis, hydatidosis complicated by a cyst fissure or rupture and end-stage toxocarosis<sup>[10]</sup>.

\* The treatment of enterobiasis includes: Pyrvinium emboate, pyrantel pamoate, fluoromebendazole, mebendazole and albendazole. All can be taken in a single intake and are well tolerated and efficient. Pyrvinium emboate dyes feces in red.

To increase therapeutic efficacy, the entire household and/or kindergarten must be treated simultaneously with the patient. Also, the same dose must be repeated 3 weeks after the first one to treat possible reinfestations happening at the time of first treatment. Finally, underwear and bed sheets should

be changed on treatment day<sup>[11]</sup>.

\* Prevention hinges (1) at the individual level on hygienic measures such as: Washing hands before each meal, cutting nails and wearing closed pajamas<sup>[12]</sup> and (2) at the collective level by treating all the children and personnel of kindergartens where a case has been detected.

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