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*Case report*

# Strongyloidiasis: a case report with its lessons and rare facts about the disease

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**Abstract**

Strongyloidiasis is endemic to the entire inter-tropical zone. Newly infected people are the most prone to experience the symptoms of this intestinal nematodosis. In this article, a 38-year old German citizen consulted for bowel movement disturbances and dyspepsia as well as diffuse and erratic pruritus, and was finally diagnosed with to have strongylodiasis is presented and discussed.

**Keywords:** strongyloidiasis; nematodosis; dyspepsia; pruritus

## CASE REPORT

Mr. B. G. a 38 year old German citizen, electrician, married and father of two consults for bowel movement disturbances and dyspepsia as well as diffuse and erratic pruritus. His recent past included a three-week trip to Martinique. During his stay on the island, he did not swim in fresh water but went down some creeks wearing sandals to take pictures of women washing clothes.

His symptoms had been lasting for at least one week mainly consisting of moderate nausea and pyrosis. He also mentioned meteorism and gas. His bowel movements were disturbed with alternating constipation and diarrhea with abdominal cramps. He had lost two kilograms in seven days. Lastly, B. G. had noted on his thorax the appearance of erythematous, pruriginous, migratory and transient lines lasting two to three hours. His clinical exam revealed an epigastric area tender upon palpation, the rest being entirely normal.

In the lab test results, the complete blood count (CBC) shows an eosinophilia (0.19 of $7.5 \times 10^9$/L white blood cells) and the parasitological stool exam (PSE), including the Baermann concentration method, evidences larvae of *Strongyloides stercoralis*.

Consequently, the diagnosis of strongyloidiasis is established and the following treatment given: ivermectin 2x6 mg tabs in a single intake and fasting.

A follow-up is performed six weeks after treatment. Symptoms have completely subsided, the CBC is normal and the PSE negative. They remained so four and a half months later. Preventing counseling is provided, which at the individual level consists of wearing closed shoes in endemic areas.

## DISCUSSION

Strongyloidiasis is endemic to the entire inter-tropical zone[1]. Newly infected people are the most prone to experience the symptoms of this intestinal nematodosis. People from endemic areas are most frequently asymptomatic and their diagnosis often made by the check-up of an isolated eosinophilia [2]. Contamination by strongyloides larvae is trans-cutaneous predominantly occurring at the feet level [3]. However and exceptionally, oral transmission may be seen. For example, in the seventies several cases

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were reported from a student cafeteria of the Chatenay-Malabry campus in France after the malevolent act of a disgruntled cook who had contaminated the food with his feces. Fecal oral transmission is also possible *via* sexual activities[4].

The incubation period of strongyloidiasis is 45 days[5]. Dyspepsia is often the most prominent symptom and can mistakenly be attributed clinically to other diseases such as viral hepatitis[6]. Cutaneous symptoms are rare. They constitute the larva currens syndrome, which is a linear, erratic, erythematous and pruritic eruption mainly located on the buttocks and the lower back but sometimes can be found on the thorax and the abdomen. This syndrome is due to the sub-cutaneous migration of strongyloides larvae. These stem from the self re-infestation endogenous cycle. Larva currens is the only pathognomonic symptom of strongyloidiasis[7].

The parasite cycle also explains: 1) The eosinophilia fluctuations between 20-25% and the normal range[8]; 2) The necessity to perform a control PSE 6 months after treatment[9]; and 3) The duration of the disease, which in certain cases was diagnosed dozens of years after the initial contamination, for example, in British soldiers who had fought in Southeast Asia during World War II[10]. The only efficient concentration method for *Strongyloides stercoralis* larvae is the Baermann technique. It takes 6 to 8 weeks for the eosinophilia to return to normal.

One must never forget that malignant strongyloidiasis can be lethal. It is also called the hyperinfection syndrome, which results from the invasion of body organs, notably the brain, by larvae of *S. stercoralis*. It occurs in immunodeficient patients[11], for example with cancer. Therefore, it is mandatory to systematically and preventively treat patients who have been exposed to strongyloidiasis before administering corticosteroids, antineoplasic or radiation therapies. HIV/AIDS patients[12] at risk should also be treated.

Thiabendazole is very effective on *S. stercoralis* but frequently poorly tolerated despite administration precautions such as divided doses taken with meals. It causes nausea with or without vomiting headache and dizziness. Albendazole also represents an alternative to ivermectin[13,14]. At the collective level, prevention hinges on good fecal hygiene with, for example, the construction of latrines.

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