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A Case of Cutaneous Larva Migrans Acquired from Soiled Toilet Floors in Urban Kuala Lumpur

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SUMMARY

Despite being a common skin dermatosis in the tropics, physicians in the tropics may miss the diagnosis of cutaneous larva migrans for other pruritic skin manifestation. This is especially in those who live in urban housing with no history of travel. Cutaneous larva migrans, an intensely pruritic skin pathology is mainly contracted by people with history of beach holiday or contact with moist soft sand which had been contaminated with dog or cat faeces. This article reports a patient who presented with intensely itchy papular spots over the dorsum of his foot after walking barefooted in an urban toilet soiled with cat faeces. The patient had initially seen an urban general practitioner who diagnosed the papular skin lesion as an allergic reaction, and prescribed antihistamines. The patient subsequently developed creeping skin lesions and was seen by the author who prescribed albendazole 400 mg twice daily for three days. The patient reported reduction in itching after two days of albendazole treatment and a follow up at ten days revealed a healed infection.

KEY WORDS:

Larva migrans, Ancylostoma braziliensis, Cutaneous larva migrans, Creeping eruption, Hookworm

INTRODUCTION

Cutaneous larva migrans, a percutaneous penetration of larvae of some nematode parasites, is a common acquired dermatosis in the tropic and subtropics¹. The condition manifests as an intensely pruritic skin eruption, and secondary bacterial superinfection may occur due to scratching². It is usually reported by people returning from beach holiday or direct contact with moist sand³. The diagnosis may therefore be missed in those without similar history.

CASE REPORT

Mr MH, a 40 year old male presented with itchiness over his right foot and leg. His problem started after a weekend trip to a relative's house in urban city housing in Kuala Lumpur. The relative had cats as pets and let the cats soil the bathroom and toilet floors. Mr MH gave a history of taking his shower barefooted in the bathroom and toilet despite being aware of the presence of cat's faeces on the floor. He denied any history of beach holiday. Upon returning from the weekend trip, the patient noticed an intense itchiness over the sole of his right foot. On the first evening, he noticed a few red spots

over the sole of the right foot. He was unable to sleep due to the intense itchiness. After four days, he noticed a reddish curly line over the inner side of his right foot. He consulted a general practitioner who diagnosed the skin condition as allergic reaction and prescribed some antihistamines and calamine lotion, but the condition persisted.

He presented to the author's clinic seven days after the weekend trip. Physical examination revealed an afebrile patient who had several reddish, well circumscribed, 1cm papular spots over his right sole. A raised curly line (2-3 mm wide) was seen at the level of the medial malleolus of the right foot. A diagnosis of cutaneous larva migrans was made based on the clinical presentation. The patient was prescribed albendazole 200mg bd for three days and given a ten day follow up. The patient reported less itching after two days of treatment. On follow up, the lesion had healed and the itchiness had subsided. This case report was written after obtaining informed consent from the patient.

DISCUSSION

Cutaneous larva migrans is commonly reported in travellers returning from beach holidays in the tropics and sub-tropics or from direct contact with moist soil contaminated with animal faeces^{1,2}. However, the first author is not aware of reports involving cutaneous larva migrans acquired from urban housing or from toilet floors. The patient in this case report probably acquired the infection by direct contact (barefoot) with cat faeces in the wet bathroom and toilet floor.

Cutaneous larva migrans is caused by hookworms that usually infest cats, dogs and other animals¹. The hookworms responsible for cutaneous larva migrans are: 1) *Ancylostoma braziliensis* (hookworm of wild cats and domestic dogs and cats), 2) *Ancylostoma caninum* (dog hookworm), 3) *Uncinaria stenocephala* (dog hookworm), 4) *Bunostomum phlebotomum* (cattle hookworm) and 5) other rare causes include *Necator americanus* (human hookworm), *Ancylostoma duodenale*, and *Ancylostoma tubaeforme*³. The larvae excreted from the animal faeces initially feed on soil bacteria before becoming infective. The larvae penetrate the new host's skin, and then shed their natural cuticle. Once infected, the larvae migrate under the skin's surface within a few days, thus creating the typical wormlike burrows visible under the skin. As humans are accidental hosts, the larvae are believed to lack the enzymes required to penetrate the basement membrane to invade the dermis². Therefore human skin infestations are limited to the

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skin. Lesions are commonly reported to be distributed on the distal extremities, especially the dorsum of the foot, however lesions over the anogenital region, the buttocks, the knees and the hands have been reported^{1,2}. These manifest as creeping eruptions which causes intense itchiness. Intense itchiness may result in secondary bacterial superinfection, which may require antibiotic therapy. However, the disease is self limiting, as the larvae will eventually die in the epidermis after several weeks or months as they are unable to complete their lifecycles in the accidental human hosts³. Untreated uncomplicated lesions usually resolve within 4-8 weeks, but pharmacological treatment has been shown to shorten the course of the disease. However, in very rare cases of cutaneous larvae migrans (usually infections with large number of parasites), pneumonitis (Loeffler syndrome) may occur². With pharmacotherapy, itchiness is reduced within 24-48 hours of starting treatment and skin lesions resolved within seven days of the start of treatment. A few anthelmintic agents (albendazole, mebendazole and thiabendazole) have been reported to be effective for treating cutaneous larva migrans. Another antiparasitic medication, ivermectin (a semisynthetic macrolytic lactone with broad spectrum action against nematodes) has also been reported to be effective in treating cutaneous larva migrans¹.

In this patient, the first physician made a diagnosis of allergic reaction. This was probably based on the intense skin itchiness. The diagnosis of cutaneous larva migrans was probably missed as the patient did not give a history of travel or beach holiday. Other differential diagnoses that could be considered are allergic contact dermatitis, photoallergic dermatitis and epidermal dermatophytosis. Diagnosis is

usually based on the classical appearance of the eruption. A small proportion of patients were observed to have peripheral eosinophilia and increased IgE levels³.

Although commonly reported in tropical and subtropical regions, the skin manifestation has been reported in many non-endemic countries around the world. This is probably due to the growing incidence of foreign travel. This case report demonstrates that cutaneous larva migrans can be acquired in an urban setting, and that high level of suspicion should be kept in pet owners and in those with contact with domestic animal faeces who present with itchy skin lesions. When at the beach, people should be educated of the importance of wearing footwear (slippers/beach shoes), beaches should be kept free of cat or dog faeces and sunbathers should be advised to lie on a towel to provide a barrier when sitting on the ground. At home, people should be advised to wear proper footwear in wet bathroom and toilets and not permit cats or dogs to soil bathroom or toilets. As a preventive measure, this article also suggests that dog and cat owners regularly deworm their pets and ensure that their pets have regular veterinary check ups.

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