

Case Report

Creeping eruption of the hand in an Iranian patient: Cutaneous larva migrans

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Abstract

Cutaneous larva migrans (CLM), a serpiginous cutaneous eruption is the most commonly acquired tropical dermatosis. It is caused by infection with hookworm larvae in tropical and sub-tropical areas, and people who have a history of travel in these countries. The most frequent location of CLM is the distal lower extremities or buttocks. We describe a case of 57-year-old Iranian female patient with CLM of hand (unusual site) without traveling to endemic countries that was successfully treated with oral albendazole. To the best of our knowledge, this is the first report of CLM in Iran.

Key Words: Creeping eruption, cutaneous larva migrans, Iran

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INTRODUCTION

Cutaneous larva migrans (CLM), also known as creeping eruption or sand worm is the most common tropically acquired dermatosis, first reported by Lee in 1874.^[1] It is a serpiginous cutaneous eruption caused by the accidental penetration and migration of animal hookworm larvae through the epidermis.^[2] Although CLM has a world-wide distribution,^[3] it is most commonly seen in warm climates, such as the southeastern parts of the US, Central and South America, Africa and other tropical areas.^[2] The most

frequent location in the human body is the distal lower extremities or buttocks.^[3] In Iran, it is a very rare infection. We report the case of a 57-year-old woman with CLM on an unusual site (finger) in Shoshtar, Iran. To the best of our knowledge this is the first reported case of CLM in Iran.

CASE REPORT

This was a case report of a 57-year-old female agriculturist patient who was referred to our Department of Dermatological Diseases due to skin changes localized on her right hand. She lives in Shoshtar, Ahvaz, Iran. She revealed a 3 weeks history of intensely pruritic edematous, serpiginous tracts on her right hand. Small vesicles and hemorrhagic bullae had developed, gradually appearing a few days after the appearance of the first lesion [Figure 1]. The eruption had progressed daily, almost 0.5 cm, despite the application of antibacterial lotion to the eruption. The patient had

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been unable to sleep at night due to intense itching. She gave no history of fever, pulmonary or intestinal difficulties and her travel history to the endemic area was negative. Physical examination revealed serpiginous, erythematous raised tracts with bulla formation, findings that are clinically diagnostic of CLM. The remainder of her physical examination was within the normal limits. Laboratory analyses only revealed an elevated absolute eosinophil count. The skin biopsy showed that the cavities left by the parasite were located within the stratum corneum and associated with eosinophilic spongiosis. In the dermis, there was a mixed inflammatory infiltrate with numerous eosinophils [Figure 2]. Treatment with oral albendazole 400 mg daily for 5 days was successful and symptoms including pruritus diminished within 48 h; the patient's lesions showed signs of healing, with areas of desquamation and hyperpigmentation 1 week after the initiation of treatment. No further relapses occurred during the 2 months follow-up [Figure 3].

DISCUSSION

Hookworm-related CLM is a parasitic dermatosis caused by the penetration of larvae, mostly of a dog or cat hookworm, into the epidermis of human.^[4] This eruption usually seen in tropical climates, although with the ease of travel to the tropics its incidence could well be increasing on return to the home countries,^[5] but its presentation still remains uncommon in Iran. CLM is characterized by erythematous, serpiginous, pruritic, cutaneous eruption caused by percutaneous penetration and subsequent migration of the larvae of various nematode parasites.^[2,6] In most of the cases, a very intense itch develops shortly after skin penetration and is described as being very uncomfortable. Pain can also be present.^[6] Each larva produces one tract and migrates at a rate of 1-2 cm/day. The most frequent location is the distal lower extremities or buttocks. Additional sites of involvement may include the hands and thighs.^[3] The larvae rarely progress beyond the skin and systemic manifestations such as migratory pulmonary infiltrates and peripheral eosinophilia (Loeffler's syndrome) are rarely seen. The only common systemic finding is a moderate peripheral blood eosinophilia. Due to intense pruritus and scratching, superimposed bacterial infections may complicate the clinical picture.^[2,7] CLM is considered as a clinical diagnosis.^[4] Although the diagnosis is usually made clinically, based on the characteristic lesions and history, biopsies are sometimes performed. It is unusual to see the parasite in biopsy specimens, but occasionally the larva can be identified within the epidermis.^[2] The most common cause is *Ancylostoma*



Figure 1: Cutaneous larva migrans. Characteristic serpiginous erythematous tracks on the hand vesiculation and crusting are seen (volar and dorsal view)

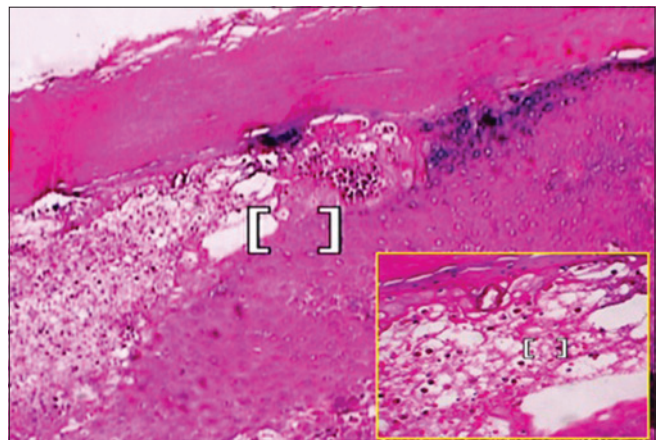


Figure 2: Cutaneous larva migrans. Histopathological findings of which showed severe eosinophilic spongiosis and cavities in upper layer of epidermis that contain eosinophil infiltration (H and E, $\times 10$, $\times 40$ [Insert])



Figure 3: Cutaneous larva migrans. After 3 weeks - follow-up, linear and serpiginous skin lesions which were treated with albendazole 400 mg/day for 5 days

braziliense and less common species are *Ancylostoma caninum*, *Uncinaria stenocephala* and *Bunostomum phlebotomum*.^[3] CLM is usually a benign and self-limited disease and the prognosis is excellent. This is a self-limiting disease, but treatment is necessary because of possible complications and intense pruritus. Prior to the availability of antihelminthics, cryotherapy was used, but it was imprecise and only effective in perhaps half of all cases.^[7,8] Now-a-days this method is not recommended. Topical use of thiabendazole is suitable for early, localized lesions, whereas the systemic use of thiabendazole is preferred for the treatment of widespread lesions, but is limited due to a high incidence of adverse effects. More successful treatment includes the new antihelminthics, albendazole and ivermectin.^[7,8] Albendazole is a powerful antihelminthic against infections by intestinal nematodes and was first used to treat CLM in 1982.^[9]

Although in a study of French tourists in 1993, a single 400-mg dose failed in 6 cases,^[10] after that time many reports such as Kim *et al.*, 2006; Bava *et al.*, 2011; testify the efficacy of parenteral albendazole.^[11,12]

Veraldi, *et al.*, 2012; described in a retrospective study on 78 patients, 1 week of therapy with 400 mg/day oral albendazole is very effective (cure rate: 100%) in patients with CLM characterized by multiple and/or extensive lesions.^[13]

In our patient the diagnosis was based on typical clinical features because there was no history of fever, or pulmonary or intestinal difficulties, visceral involvement was excluded. She was treated with albendazole without any side effect and recurrence during the follow-up. To the best of our knowledge this is the first reported case of CLM in Iran. We conclude that sporadic cases of CLM should be kept

in mind in differential diagnosis of any creeping lesion even in non-endemic countries.

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