

Case Report

A case report of asymptomatic cutaneous larva migrans

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ABSTRACT

Cutaneous larvae migrans or creeping eruption is a serpiginous cutaneous eruption caused by the accidental penetration and migration of animal hookworm (nematode) larvae through the epidermis and subcutaneous tissue. The infection occurs most frequently in warmer climates and is associated with pruritus and burning sensations. We report a case of 48 years old farmer with vesicular lesion on left ankle progressing into a serpiginous track on the skin surface without any characteristic symptoms. Treatment with oral and topical drugs led to successful resolution of lesions within 10 days.

Keywords: Larva migrans, Creeping eruption, Serpiginous, Nematode

INTRODUCTION

Cutaneous larva migrans, also known as creeping eruption/sand worm eruption/plumbers itch/duck hunter's itch/epidermatitis linearis migrans, is a common tropically acquired dermatosis that frequently occurs during warm and rainy seasons.¹ It is caused by penetration of skin by third-stage larvae of animal hookworms; *Ancylostoma brasiliense* (dog hookworm) being the commonest cause.² Clinically, it is seen as erythematous, serpiginous, pruritic, cutaneous eruption due to percutaneous penetration and subsequent migration of larva of the nematode.³ The infection can be acquired occupationally or accidentally by farmers, gardeners, hunters, or beach visitors.² We came across a case of 48 years old farmer with asymptomatic cutaneous larva migrans. The cutaneous lesion resolved completely with oral and topical therapy within 10 days.

CASE REPORT

A 48 years old male, occupationally engaged in paddy farming, presented to our OPD with history of fluid filled

lesion on lateral aspect of left ankle for 7 days. The lesion was noticed by him incidentally while working in the field. There was no history of preceding itching, redness, or trauma on the affected site prior to the onset of lesion. Pain and burning were characteristically absent. Patient then noticed the serpiginous extension of vesicular lesion over next 3 days which extended upwardly about 2-3 cm over left ankle area. Similar vesicular lesion was also, seen on left first toe web space without any extension. The lesions remained asymptomatic throughout the course of the disease. There was no history of fever, cough, weight loss, loss of appetite and night sweats before and during the disease course. There was no previous personal or family history of similar lesions.

On dermatological examination, single, well defined, edematous 2-3 cm long serpiginous tract noticed on the lateral aspect of the left ankle along with a clear vesicle in first toe web space. No visible oozing and crusting were noticed from the lesions. Palms, soles, and genitalia were spared. On sensory examination, cutaneous sensation was intact to all modalities.

Necessary investigations such as complete blood count, random blood sugar levels, electrolytes, blood urea, creatinine, and urine routine examination etc. were done, reports of which were within normal limits except for raised eosinophils with absolute eosinophil count of 864/cu.mm.

Skin biopsy taken 1.5 cm away from the advancing edge of the tract on lateral aspect of left ankle showed intraepidermal supra-basal as well as sub-corneal vesicles, which at places contain necrosed keratinocytes. The papillary dermis shows sparse perivascular chronic inflammatory cells and scanty eosinophils. However, no organism was seen in the skin biopsy.

Patient was treated with oral and topical agents. Orally, tab ivermectin 12 mg in a stat dose and tab albendazole 400 mg once a day for 5 days was given. Topically nadifloxacin cream twice a day was applied over lesion and suture site. Patient followed up after 10 days with complete resolution of lesions.



Figure 1: Tortuous, skin coloured, serpiginous tract on below left lateral ankle area.



Figure 2: Single, flesh coloured, vesicle on left first toe web space.

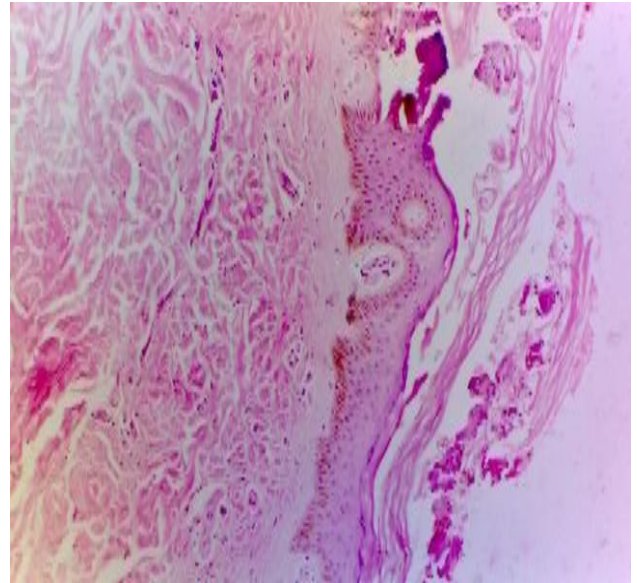


Figure 3: Histology from the lesion of intraepidermal vesicles, with few necrosed keratinocytes, sparse perivascular dermal infiltrate containing scanty eosinophils.

DISCUSSION

Cutaneous larva migrans (creeping eruption) has a worldwide distribution with higher prevalence and endemicity in warmer tropical and sub-tropical countries such as Caribbean islands, Africa, South America, Southeast Asia, and South-Eastern United States.⁴ Cutaneous larva migrans is caused by the larvae of hookworms that infect domestic dogs and cats, most often *Ancylostoma braziliense* or *A. caninum* and occasionally *Uncaria stenocephala* or *Bunostomum phlebotomum*.⁵ The infection is usually acquired by walking barefoot on ground contaminated with animal faeces. The larvae enter the skin and undergo process of migration within the epidermis, producing visible tracts and intense pruritus. The parasite usually remains confined to the epidermis as it lacks collagenase, which is necessary to disrupt the basement membrane.⁶ Patients develop intense localized pruritus that occurs shortly after the hookworm penetrates the skin. The pruritus is associated with small vesicles and/or one or more edematous, serpiginous tracts. Each larva produces one tract and migrates at a rate of 1 to 2 cm per day ("creeping eruption") usually 2-6 days after the infection is acquired. The most frequent location is the distal lower extremities or buttocks. Other sites of involvement include the hands, thighs, and rarely perianal area.⁷ As larva can gain entry through multiple points, more than one lesion may occur in a patient. The larva can survive for 2-4 weeks in the human host, the disease is usually self-limiting in around 80% cases. Occasionally, constitutional symptoms like cough, wheezing, and chest pain can occur. Pulmonary eosinophilia (Loeffler's pneumonia) can occur with severe infestation.² Superimposed bacterial infections can occur due to intense pruritus and scratching.⁷ Diagnosis is

mostly clinical, while histopathology is of little utility as the larvae may have migrated beyond the clinical lesion. Non-specific serological test is available for the diagnosis.⁸ Skin biopsy may show cavities left by the parasite within the upper epidermis with spongiosis, and a mixed dermal infiltrate composed of lymphocytes, histiocytes, and numerous eosinophils. Occasionally, collections of eosinophils may be present in the epidermis and within hairfollicles.⁶

The differential diagnosis may include allergic contact dermatitis, impetigo, inflammatory tinea, scabies, myiasis, and other nematode infections such as the superficial form of gnathostomiasis.⁶ Similar creeping lesions is also seen in Larva currens which is an itchy, cutaneous condition caused by the intradermal migration of strongyloides stercoralis. It can be differentiated from cutaneous larva migrans by its rapid migration, perianal involvement, and wideband of urticaria. Clinically, Larva currens is characterized by serpiginous erythematous papules on the buttocks, upper thighs and lower abdomen.⁹ Cutaneous larva migrans is self-limiting, but the intense pruritus and prolonged course often necessitate treatment.¹⁰ It can be treated by physical modalities (surgery e.g., in creeping eruption due to Gnathostoma sp. phinigerum), cryotherapy by freezing the tracks or their ends, topical drugs and systemic therapy.¹¹ Various topical agents such as 15% thiabendazole, 2% Gamrriexane cream, 25% piperazine citrate and metrifonate have been tried in the treatment. Among these, thiabendazole has been found to effective in killing the larvae and alleviating symptoms but it requires repeated application, can result in an irritant reaction, and is often followed by recurrences. Oral thiabendazole is usually given in the dose of 25-50 mg per kg body weight, once or twice daily for 2-5 days but it has high incidence of side effects such as nausea, anorexia, headache, and gastrointestinal disturbances.¹ Administration of a single 400 mg oral dose of albendazole to adults and children >2 years of age produces cure rates of 45–100%, but a dose of 400-800 mg/day in adults or 10-15 mg/kg/day (maximum of 800 mg/day) in children for 3-5 days results in more consistent cure rates of 80-100%.¹⁰ A single ivermectin dose of 12 mg in adults or 150-200 mcg/kg in children has 80-100% efficacy and it has gained favour over other drugs.¹² Flubendazole, another anti-helminthic drug, in dose of 200 mg/day for 5 days, currently under experimental stage, can be a good future prospect.¹¹

CLM can be prevented by adequate precautionary methods to avoid contact of exposed skin with contaminated soil. Use of beach towel when lying on sand and wearing shoes can avoid exposure to the larvae. Periodic deworming of domestic cats and dogs reduces soil contamination.⁴

CONCLUSION

Cutaneous larva migrans or creeping eruption is caused by the invasion and migration of nematode larva in human skin after direct contact with contaminated soil. It is a common occupational dermatosis in farmers and gardeners. The lesions can start as vesicle and extend, thus forming a serpiginous tract due to parasitic movement within the skin layers. The lesion is intensely itchy, frequently accompanied by pain and burning. It can sometimes lead to secondary infection and Loeffler's pneumonia. Topical and oral mebendazole, commonly used for the treatment, is being replaced by oral ivermectin nowadays. This potential occupational dermatosis can be prevented by adequate hygiene, avoidance of contaminated soil and deworming of pets.

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