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Cutaneous Larva migrans: A Case Series of a Skin-related Neglected Tropical Diseases from Nepal

Shraddha Shrestha,[1] Shashi Hirachan,[2] Niraj Parajuli[3]

[1]DI Skin Hospital and Referral Center, Kathmandu, Nepal, [2]Bharatpur hospital, Chitwan, Nepal, [3]National Academy of Medical Sciences, Kathmandu, Nepal.

ABSTRACT

Cutaneous larva migrans is a tropical dermatosis acquired through the helminthic infection. It is caused by penetration of animal hookworm larva in patient with history of walking barefoot on soil or beaches or with history of travel to tropical areas. It usually presents clinically as a pruritic serpiginous lesion with a trailing. Here, we report three cases who presented as asymptomatic to pruritic thread like serpiginous lesion on cutaneous examination. Cutaneous larva migrans was diagnosed clinically and proper treatment was done with complete regression of manifestations within a week. Although the condition is self-limiting, it is an under-diagnosed entity leading to delay in treatment and exacerbation of clinical manifestations including rare pulmonary manifestation called Loefflers syndrome.

Keywords: Creeping eruption; ivermectin; larva migrans; skin-NTDs.

INTRODUCTION

Cutaneous larva migrans (CLM) is a parasitic, self-limiting creeping cutaneous eruptions caused due to skin penetration by animal hookworm larva.[1] The parasites are larval form of nematodes, most commonly of dog and cat hookworms. Ancylostoma caninum and Ancylostoma braziliense.[2] A creeping eruption is defined clinically as a serpiginous, slightly elevated, erythematous track that moves forward in linear irregular pattern.[1] Diagnosis is based on clinical appearance of lesion, history of travel to tropical area and intense pruritus.[3] We hereby present three cases with typical cutaneous manifestation of CLM. To our knowledge, very few cases of CLM has been reported in Nepal and with proper treatment, prognosis is excellent. Here we report three different cases of CLM from Nepal which was treated with two doses of Oral Ivermectin.

CASE SERIES

CASE 1

A 64 years old male presented with a history of pruritic cutaneous lesion over the dorsum of right foot which advanced progressively for a five days period. His physical and systemic examination were normal. He works as a farmer and gives history of use of some over the counter topical medicine. Oral oral antihistamines relieved the pruritus but the lesion did not improve.

On examination, there was a mildly erythematous, thread like, serpiginous and slightly elevated lesion of 2 mm wide and 8 cm long present on dorsum of right foot. A healing trail was prominent at one end and progressing trail at other end (Figure 1).

Routine blood investigations and systemic examination were all normal. A diagnosis of cutaneous larva migrans was made on clinical presentation and patient was managed with oral ivermectin at dose of 200mcg/kg orally for two days. Follow up in one week showed significant regression of the lesion.

CASE 2

A 49 years old male presented with pruritic lesion over his left foot for a week. According to patient, lesion started as a papule and then traversed in a linear fashion. He gave history of working in the farm few weeks prior to the onset of this cord-like lesion. His medical history was unremarkable. Multiple topical medications were tried but without any relief.

On examination, there was an elevated, serpiginous lesion about 12cm in length extending from the sole that

Correspondence: Shraddha Shrestha, Department of Dermatology, DI Skin Hospital and Referral Center, Kathmandu, Nepal. Email: drshraddha.stha@gmail.com, Phone: +9779841563080.

traversed to medial aspect of left foot (Figure 2).

Routine blood investigations and systemic examination were all within normal limits. Based on the history and the clinical examination, the patient was diagnosed as CLM and treatment was started with oral ivermectin at dose of 200mcg/kg orally for two days with complete resolution within a week.

CASE 3

A 31 years old woman presented with a 12 days history of pruritic lesion on dorsum of her left hand. She had worked in her garden, few weeks prior to the onset of the lesion which started as a red papule and gradually evolving to a linear serpenginous lesion over the course of few weeks.

On cutaneous examination, there was a 6-8cm linear, erythematous and slightly elevated track over the dorsum of his left hand (Figure 3).

Systemic examination and routine laboratory workup were all normal. With a clinical diagnosis of Cutaneous larva migrans, oral ivermectin was initiated at a dose of 200mcg/kg orally for two days. On a follow-up after 1 week, patient was asymptomatic with complete regressions of cutaneous lesion.

DISCUSSION

Cutaneous larva migrans, also known as sandworm's disease, plumber's itch or duck hunter's itch is caused by penetration of larva of parasite into the skin mostly of animal hookworm.[4] Human usually get the infection by walking barefoot on soil contaminated with animal feces mostly during the warm and rainy season.[5] CLM is a tropically acquired dermatosis where optimum temperature and moisture favors the larva survival.[6] The eruption is seen as a creeping eruption over the skin as larva easily enter human epidermis and less commonly the upper dermis as it lack the collagenase enzyme needed to break the basement membrane so infection is usually confined to the skin. There are a few case reports of hematological dissemination of larva leading to Loffler's syndrome.[2]

CLM classically presents with typical appearance of slightly elevated, erythematous, migrating serpiginous track with associated intense pruritus. This track progresses at the rate of 2-3mm to 2-3cm per day.[7] Complications of infection could be either local or disseminated. The different range of complications include secondary infection and eczematization, folliculitis, bullous lesion or hyper-eosinophilia (Loeffler's syndrome).[8] The most commonly affected areas are dorsum and soles of feet.[5] Diagnosis is made clinically by history and finding of characteristic serpiginous lesion, hence biopsy and investigations are rarely required. However, to provide confirmatory diagnosis and to visualize the larva, epiluminescence microscopy is an effective noninvasive method.[4]

CLM is a self-limiting cutaneous disease with natural history of self-resolution within weeks to months as humans are accidental, dead-end host.[9] Although being self-limited, treatment is required to prevent complications and reduce pruritus.[5] Anti-helminthic therapy including ivermectin (200mcg/kg orally once daily for one to two days) or albendazole (400mg orally with fatty meal for three days) have showed complete clearance of lesion.[7, 10] Pruritus settles before dermatitis with complete clearance of lesion.[4] Topical thiabendazole are alternative treatment option and antihistamine should be prescribed to relieve pruritus.[5]

We should also consider possible bacterial, fungal infections, contact dermatitis or parasitic infections and other creeping eruptions like cutaneous pili migrans, larva currens as differentials.

CLM is a tropically acquired dermatosis. An under-reporting of cases of CLM result in lack of proper estimation of prevalence of this preventable and curable condition leading to burden of disease in tropical areas. To establish the incidence/prevalence of disease, further observational studies should be conducted. An awareness regarding regular deworming of pets, wearing protective footwear, protecting skin from direct contact with contaminated soil with animal feces and usage of drying lines may help in prevention and control of the skin-related neglected tropical disease.

Consent: Case Report Consent Form was signed by the patient and the original article is attached with the patient's chart.

CONFLICT OF INTEREST

None

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Figure 1. Erythematous, progressive, serpiginous lesion over dorsum of right foot.

Figure 2. Slightly elevated serpiginous track over sole and medial aspect of left foot

Figure 3. Serpiginous, erythematous lesion on dorsum of left hand.