

Two Cases of Cutaneous Larva Migrans

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Cutaneous larva migrans (CLM) is a ubiquitous self-limiting skin eruption which has intensely pruritic, serpiginous, raised, sharply demarcated, red lesions. It is most frequently caused by larvae of dog and cat hookworms. We report two typical cases of cutaneous larva migrans that appeared as pruritic exanthems in two people after they had travelled in Southeast Asia. It is suggested one should consider cutaneous larva migrans in the differential diagnoses of erythematous pruritic lesions. (Ann Dermatol 10:(1) 61~63, 1998).

Key Words : Cutaneous larva migrans

Cutaneous larva migrans, a creeping eruption, is a worldwide skin disease which occurs mainly in the tropics and subtropics. It affects people working barefoot in damp ground, e.g., miners or tunnel workers and people working on drains. More recently it has been increasingly imported from the tropics or subtropics by travellers. The term cutaneous larva migrans covers a group of diseases induced by larvae of various nematode species which migrate through the superficial layers of the skin^{1,2}.

The first "creeping eruption" recognized was caused by *Ancylostoma braziliense*. Other hookworms, however, can induce very similar clinical pictures: *Ancylostoma caninum*, *Ancylostoma duodenale*, *Necator americanus*, *Bunostomum phlebotomum*, and also species of *Strongyloides*.

The larvae, which originate from human feces, live in damp earth or beaches. They penetrate through the intact epidermis, and make a characteristic migration through a tunnel in the epidermis and the upper dermis, hence the name *larva migrans*. A secondary inflammatory reaction develops. The larvae can survive for days or weeks in the skin³.

CASE REPORTS

The first patient was a 20 year-old female who had had an eruption on her right forearm for a month after she had travelled to Thailand. A physical examination revealed a serpiginous, raised, sharply demarcated, red lesion on her right forearm. It gave her an itching sensation and therefore, it seemed to be clinically compatible with cutaneous larva migrans (Fig. 1. A.). The laboratory findings revealed a leukocyte count of 8,220/mm³ with 10.8% eosinophils, an eosinophil count of 890/uL, and a stool examination showed no ova or parasites. A histological examination showed only subepidermal bullae with mild superficial perivascular lymphocytic infiltrations without any larva (Fig. 1. B.). Unfortunately, we did not find any larva in the biopsy specimen but it has been commonly reported that larva are not frequently found in the clinical lesions. She was treated with albendazole 400mg. After two weeks, the lesions improved.

The second patient was a 28 year-old female who was the cousin of the first patient. She had also had the eruption on her back for one month after travelling to Thailand with the first patient. On physical examination, there was an erythematous, serpiginous, pruritic eruption on her back (Fig. 2. A.). The laboratory examination revealed a leukocyte count of 7,150/mm³ with 4.1% eosinophils, an eosinophil count of 290/uL, and a stool examination showed no ova or parasites. The histological

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Fig. 1. A. A serpiginous, raised, sharply demarcated, red lesion on the right forearm.

B. Subepidermal bullae with mild superficial perivenular lymphocytic infiltrations without any larva (H&E, $\times 40$).

examination showed superficial and deep perivenular and perifollicular chronic inflammation with many eosinophilic infiltrations (Fig. 2. B.). Spontaneous resolution occurred two weeks after the skin biopsy.

DISCUSSION

Cutaneous larva migrans (CLM) is a ubiquitous self-limiting skin eruption, most frequently caused by third-stage larvae of dog and cat hookworms (*Ancylostoma caninum* and *Ancylostoma braziliensis*, re-

Fig. 2. A. An S-shaped erythematous, serpiginous pruritic eruption on the back.

B. Superficial and deep perivenular and perifollicular chronic inflammations with many eosinophilic infiltrations (H&E, $\times 40$).

spectively)¹. Two cases of CLM have been reported in Korean literature recently^{4,5}.

The ova of these hookworms are deposited in the soil and hatch into infective larvae, which then penetrate the human skin. Sandy, warm, and shady areas are favorable for the larvae of hookworms⁶. Children, farmers, gardeners, and sea bathers are likely to be exposed to the infection. However, humans are accidental hosts. The human epidermis is penetrated by the filariform larvae either through hair follicles or fissures or, using proteases, through intact skin⁷. However the larvae cannot usually invade the human dermis, presumably because they cannot produce the enzyme to penetrate the basement membrane. Systemic com-

plications are unusual but do occur. They are usually eosinophilia with or without pulmonary infiltrates (Löffler's syndrome), particularly in patients with heavy infestations^{2,3}.

Infectious larval penetration of thin garments is well documented, but direct contact of the skin with contaminated soil facilitates infection. Immediate itching or tingling is often reported at the site of soil contact. Nondescript papules often appear in several days and, while the incubation period from infection to clinically apparent larva migrans can range from a week to several months, 7 to 10 days is most common. The most commonly affected areas are the extremities, buttocks, and genitalia, probably because these areas are likely to come into direct contact with soil⁶.

The larvae burrow into the skin and wander aimlessly, producing a serpiginous, raised, sharply demarcated, red lesion that is intensely pruritic. The burrows advance about 1 to 2 cm per day, hence the other name for the illness-creeping eruption⁸. Because humans are not the primary host, the larvae will eventually die, but this can take many months. Diagnosis is clinical, since organisms are rarely if ever recovered by biopsy and antibody titers are not reliable³. Symptoms are apparently due to hypersensitivity to the organism or its excreta, but no immunity develops; in fact, successive cases are often more symptomatic than the initial one.

Treatment of larva migrans is best with thiabendazole given in doses of 25 to 50 mg/kg body weight for 2 to 4 days and rarely longer. Pruritus subsides by the first day, and the lesions clear in 1 to 2 weeks. Oral albendazole and topical thiabendazole as 15% cream are also effective, especially in the early phase⁹. Freezing the affected area with dry ice or ethyl chloride may be effective if sloughing of the epidermis and the parasite is achieved. The freezing must include the advancing burrow where the parasite might be expected to be².

In conclusion, we describe two cases of cutaneous larva migrans, which are rare in Korea. However, the prevalence of rare tropical diseases such as cutaneous larva migrans will increase due to foreign country travel and thus one should consider cutaneous larva migrans in the differential diagnoses of erythematous pruritic lesions as well as questioning the patient about their recent travels to tropical regions.

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