CASE REPORT

Cutaneous Larva Migrans With Bullous Eruptions in A Young Child

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ABSTRACT

Infection of cutaneous larva migrans is usually acquired in the tropical region and mainly affects children. It is generally diagnosed with symptoms of severe itchiness and skin lesion that appears as a migrating erythematous linear lesion. It often occurs with a history of skin exposure to soil. Atypical presentation of the infection causes difficulty in diagnosis and delays treatment for the patient. Once diagnosed, cutaneous larva migrans is treated easily with helminth medications such as albendazole. Recognition of the skin lesion of cutaneous larva migrans in the atypical presentation of the infection for prompt treatment will comfort and prevent secondary infection complications. This case describes a presentation of bullous eruption in a child infected with cutaneous larva migrans.

Keywords: Creeping eruption, Cutaneous larvae migrans, Bullous lesion, Zoonosis

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INTRODUCTION

Skin lesions or rash accounts for around 80.8% of dermatology complaints in primary care (1). Cutaneous larva migrans (CLM) is a clinical syndrome of erythematous migrating linear or serpiginous cutaneous tracks. Alternative terms are creeping eruption, ground itch, sandworm eruption, or plumber's itch. CLM infection is caused by penetration of the cutaneous and subsequent migration of larvae of the nematode parasites with the most common parasites are *Ancylostoma braziliense* and *Ancylostoma caninum* (2).

Cutaneous larva migrans (CLM) infection is caused by the larvae of dog or cat hookworms or other animal parasites that are not natural human parasites. The filariform larvae in the soil can partially penetrate the skin and cause the CLM infection (2). Patients usually complain of intense pruritus with a history of soil exposures to the skin, such as gardening, playing sand, sunbathing, or walking barefoot (2).

The infection is common in the tropical region as people are more inclined to expose their hands and feet to soil exposure (e.g., gardening, walking at the beach). (2) It affects people of all ages though most are children. A cross-sectional study in Brazil found that the prevalence of CLM infection is 6.3-10.1%, where children age 5 to 14 years old, particularly boys, and walking barefoot are significant risk factors for CLM infection (3).

CLM is usually a self-limiting disease with the lesions resolving within four to eight weeks, as humans are the dead-end hosts (2). The larvae will die and unable to complete their life cycle. Symptoms of the infection are usually bothersome and may lead to disturbance of daily life. It may impact patients socially as the lesions are unpleasant to be seen. Rarely, complications such as cellulitis, allergic reaction or Loeffler syndrome may occur. (2) Most patients will seek treatment at the primary care. Treatment with anthelmintic medications is usually enough to cure the patients (2). We report a case of a young boy with an atypical CLM and bullous eruptions to demonstrate that awareness, recognition, and early diagnosis are essential factors to the timely treatment of CLM.

CASE REPORT

A 9-year-old boy was brought by his parents to our primary care clinic complaining of itchy erythematous skin lesions with blister formation over his right hand extending to his forearm for one month. The lesion initially started with multiple papules at the volar aspect of the hand after a few days of helping the father burn

garden waste. The child often helps in gardening but will sometimes use gloves. Stray cats or dogs are not noticeable around the housing area. He was initially treated with steroid cream and antihistamine by a general practitioner, but the lesion did not resolve. It worsened with vesiculobullous, excoriation, and some serpiginous lesions. He then was prescribed syrup erythromycin, neomycin cream and flavin dressing by another general practitioner, but his symptoms did not improve and got worse. However, there was no pus formation, fever, or skin lesion elsewhere. His birth and development history were unremarkable, and he has no medical illness. He has completed his childhood vaccinations and has no dietary problems.

On examination, the child appeared shy with his right arm covered in a towel. He was afebrile, and his blood pressure is 100/60 mmHg, pulse rate was 76 beats per minute, and respiratory rate was 16 breaths per minute. Multiple serpiginous erythematous raised tracks with bullous formation and serous discharge oozing were seen over the right hand extending to the arm. There were also papules with some excoriation lesions seen (Figure 1). Other examinations were unremarkable.

Figure 1: Multiple erythematous serpiginous tracts with bullous formation and serum oozing

A dermatologist was consulted because of the skin lesions, and the diagnosis was confirmed clinically for vesiculobullous CLM. He was prescribed with tablet Albendazole 400mg OD and an antihistamine for three days. The lesions and symptoms improved with treatment and were subsided within three weeks (Figure 2).

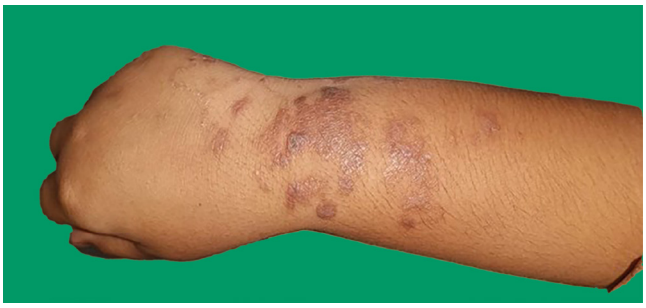

Figure 2: Improved skin lesion at three weeks post-treatment.

DISCUSSION

CLM infection is common in tropical countries, including Malaysia, where Western travellers have been reported to be infected during their travel to Southeast Asia. (2) However, the incidence and prevalence of CLM are unknown in Malaysia (5).

The CLM lesions are usually linear or serpiginous and erythematous and slightly elevated. The lesions measurements are 2- to 3-mm wide and track 3-4 cm from the penetration site. The track may advance 1-2 cm/day (2). Some patients may have nonspecific dermatitis, vesicles with serous fluid, and secondary impetiginization (2). Secondary excoriation is a common secondary to scratching. However, the presentation of bullous lesions, as in our case, is relatively rare. It is reported that vesiculobullous lesions only develop in about 10 per cent of CLM cases (4). The release of antigens and lytic enzymes by the larvae causes delayed hypersensitivity reaction resulting in the formation of the CLM skin lesions (2). This reaction may also be seen in atopic dermatitis, irritant contact dermatitis, arthropod bite with dermatitis, and other cutaneous helminthic infections such as strongyloidiasis and gnathostomiasis loiasis, dracunculiasis, paragonimiasis, and fascioliasis (2). Nonetheless, the serpiginous tract is the key feature of CLM differentiating from other diagnoses.

CLM is usually diagnosed clinically and are managed mainly by primary care doctors. However, vesiculobullous formation may pose a challenge in recognition. Hence misdiagnosis and mismanagement can occur. A retrospective record in Hospital Kuala Lumpur found that only 45.2% were correctly diagnosed by the primary doctors from the referrals received (5). Deviations from the classical features of serpiginous tracts and the presence of nodules and blisters are associated with a higher rate of incorrect diagnoses (5). Laboratory abnormalities are usually rare, and skin biopsy is usually not indicated. As described in our case, this boy did have some serpiginous tract lesion during his second visit to the doctor. Still, the presentation of excoriation and blisters might confuse the attending doctor. During our review, the presence of multiple serpiginous tracts among the bullous lesions and the clinical history prompted us to diagnose CLM, to which the dermatologist further agreed.

As for the management, CLM is a self-limiting disease but the intense pruritus and risk of secondary infection warrant treatment (2). The first-line therapy for CLM is oral albendazole, oral ivermectin or topical ivermectin, or topical albendazole (2). Treatment with anthelmintics is reported to resolve the pruritus within a day or up to three days and the tracts resolved within a week or two. (2) The recommended oral albendazole is 400mg per

day for 1 to 3 days (2). In children who are less than two years old, treatment using topical antihelminth may be sufficient. Symptomatic relief medication may be needed. This boy had responded well to oral albendazole, and the lesions improved. Regular deworming of pets, education on proper handwashing after possible exposure to contaminated soils, or protective gear such as shoes and gloves when handling soils is essential to be highlighted to parents and children as preventive precautionary reinfection. (3)

CONCLUSION

CLM with intense and severe lesions is not a typical presentation and might cause confusion to the attending physician, thus delayed treatment. This case has proven that a focused history-taking and careful observation of skin lesions served a significant role in recognising common but atypical presentation of skin lesions in primary care.

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