



## Case report

# Bullous and pustular cutaneous larva migrans: two case reports and a literature review

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## ABSTRACTS

Cutaneous larva migrans (CLM) is a common skin infestation in tropical countries. The classic presentation is a serpiginous, migratory track on the feet. Local and systemic reactions, as well as secondary bacterial infections, are rarely reported. The authors report two cases of CLM with a blister and pustular response on uncommon body locations. The patients were treated with anthelmintic therapy, and a topical corticosteroid was used to relieve their severe reactions. This report aims to describe an infrequent presentation of a common disease and review treatment plans.

## Introduction

Cutaneous larva migrans (CLM) is an infestation of the skin by nematode larvae, particularly animal hookworm, usually limited to the epidermis. It commonly occurs from direct skin contact to contaminated soil or sand which contains parasitic worms in tropical and subtropical areas [1,2]. The disease is characterized by a pruritic, erythematous, linear or serpiginous, migratory track, and can be painless or painful. It is usually located on the lower extremities. Occasionally, the process presents with eczematous, papular, bullous, follicular lesions or can be impetiginous [3–5]. Herein, we report two cases of CLM with the atypical presentation of blistering and pustular lesions on the hands and abdomen, respectively.

## Case presentations

**Patient 1:** A 66-year-old female presented with a 3-week history of a severe, migratory, itching rash with blister formation on her right hand. She had gardened a few days before developing this rash. Her medical history was hypertension, dyslipidemia, and malignant neoplasm of the uterus (stage Ia), which was treated entirely with surgical intervention. Physical examination showed a serpiginous, erythematous raised track with bullae and serum oozing on the right wrist (Fig. 1).

**Patient 2:** A 63-year-old healthy male presented with a 3-week history of an intensely, migratory, pruritic lesion with some pustules on his abdomen. Several days before the onset, he reported gardening without wearing shirt. Physical examination revealed a serpiginous, erythematous trail with some pustules on the lesion on the abdomen

(Fig. 2). Gram stain of the exudate was negative for bacteria.

Both patients were treated with a course of ivermectin. Topical corticosteroids and antihistamines were prescribed for the symptomatic treatment of itching. They both reported significant improvement of symptoms within a few days, and the lesions were completely resolved within two weeks.



Fig. 1. Patient 1, a photograph showing a serpiginous track with bullae on the right wrist.

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Fig. 2. Patient 2, a picture demonstrating a long serpiginous migratory track with some pustules (arrowheads) on the abdomen.

## Discussion

CLM is often caused by the animal hookworms, *Ancylostoma braziliense* and *Ancylostoma caninum* [6]. They usually live in animal intestines; their eggs are passed in feces of definitive cat or dog host. In the appropriate weather and humidity (fields, gardens, and beaches), they hatch and form rhabditiform larvae, then mature to filariform larvae within a week which produces a lytic enzyme [6]. When human skin contacts infected soil, it penetrates and migrates (1–2 cm/day) in the epidermis between stratum granulosum and stratum corneum with uncertain direction. The larvae are unable to migrate through basement membranes because of deficiencies in the collagenase enzyme [7].

Typically, skin manifestations of CLM are linear, or serpiginous (snake-like), migratory eruptions, and may be pruritic, painless, or painful on the feet or buttocks, the areas most likely to be contacted with soil. However, the uncommon locations reported in this cases can occur if patients are not aware of protecting their skin. Local and generalized delayed hypersensitivity reactions, including intense pruritus, edema, vesiculobullous, and papular eruptions, can present in some patients [3]. This reaction might be caused by released enzymes and uncharacterized antigen from the larvae. Secondary bacterial

infections, including impetigo, can also be found. Previous reports of bullous CLM are reviewed in Table 1 [3,8–12].

Because of human is an incidental dead-end host of animal hookworm, the larvae cannot develop further and complete their life cycle. Hence, CLM ordinarily heals spontaneously within a few weeks to months [5]. Prescribing anthelmintic therapies, such as albendazole, thiabendazole, or ivermectin, can shorten the duration of the symptoms of the disease. The optimal dosage varies depending on the pathogen and severity, albendazole 400 mg oral for three days consecutively, or a single dose of ivermectin 200 mg [5]. Other choices of treatment are cryotherapy, thiabendazole cream, and ivermectin cream for patients with contraindicated systemic treatment [5,13,14]. In patients with severe allergic reactions, symptomatic treatments with topical corticosteroid and antihistamine need to be considered. Finally, secondary bacterial infections should be ruled out in pustular and ulcerative lesions and prescribed appropriate antibacterial agents.

## Conclusion

Intense and severe reactions of CLM are not a typical presentation. However, they can occur and affect the quality of life. Supportive and specific treatment interventions should be considered in order to relieve this symptom.

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## Conflict of interest

All authors declare that there are no conflicting interests.

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Table 1  
Summary of reports resulting in bullous cutaneous larva migrans.

Study	Year	N. of case	Nationality	Country/area of infestation	Age/sex	Location	N. of lesions
Wong-Waldamez and Silva-Lizama [8]	1995	1	Guatemalan	Central America	27/M	Lower extremities and trunk	Multiple
Balfour et al. [9]	2002	1	American	Caribbean	39/M	Sole on both feet	2
Sanchez Fernandez et al. [10]	2008	1	Spaniard	Brazil	4/F	Sole on the left foot	1
Morrone et al. [11]	2011	1	Italian	Mexico	53/M	Dorsum on the right foot	1
Gupta [12]	2016	1	Indian	India	60/M	Dorsum on the left foot	1
Veraldi et al. [3]	2017	6 (in 16 years)	Italian	Thailand (2), Mexico (2), Brazil (1), Caribbean (1)	27-47/F(2), M(4)	All patient lesions on the feet (dorsum, 2; sole, 4)	1-5

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