

What's Eating You? Cutaneous Larva Migrans

Kyle A. Prickett, MD; Tammie C. Ferringer, MD

Practice Points

- Classic cutaneous larva migrans (CLM) presents with a unilateral, serpiginous, pruritic eruption on the hands, feet, or buttocks following direct contact with sand or soil that is contaminated with *Ancylostoma braziliense* or *Ancylostoma caninum*.
- Atypical presentations of CLM include bilateral distribution; folliculitis and urticarial plaques; prolonged cases lasting up to 1 year; and Löffler syndrome characterized by migratory pulmonary infiltrates and peripheral eosinophilia.
- Cutaneous larva migrans is self-limited, but treatment often is necessary due to intense pruritus. Treatment options include a single oral dose of albendazole or ivermectin, topical thiabendazole, and prolonged courses of oral albendazole in cases complicated by Löffler syndrome.

This article provides a focused update and clinical review on cutaneous larva migrans (CLM), including atypical clinical presentations and newer management recommendations. The results and recommendations are subject to modification based on future studies.

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Cutaneous larva migrans (CLM), also known as creeping eruption, is a pruritic serpiginous eruption caused by the migration of animal hookworm larvae through the epidermis.^{1,2} The most common parasites are *Ancylostoma braziliense*

(common in dogs and cats) and *Ancylostoma caninum* (common in dogs).¹

Disease Transmission

The infection is typically acquired in warm climates and tropical areas after coming in direct contact with sand or soil that is contaminated with animal feces. Therefore, the eruption most commonly occurs as a single or unilateral erythematous, pruritic, serpiginous tract on the feet, hands, or buttocks (Figure).² The larval tract typically migrates at a rate of 1 to 2 cm per day,³ which is in contrast to the serpiginous urticarial rash of larva currens of strongyloidiasis that can travel up to 10 cm per hour.⁴

Clinical Presentation

Rarely, CLM can present with bilateral lesions⁵; in severe cases a single patient can have hundreds of lesions. It also may present as folliculitis and urticarial papules.⁶ Shih et al⁷ reported a patient with CLM that presented as a diffuse papular urticarialike eruption following a trip to Thailand. This case may represent an underdiagnosed presentation of CLM. Patients with a history of exposure to contaminated

From the Department of Dermatology, Geisinger Medical Center, Danville, Pennsylvania. Dr. Ferringer also is from the Department of Laboratory Medicine.

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Correspondence: Kyle A. Prickett, MD, 115 Woodbine Ln, Danville, PA 17822-5206 (kaprickett@geisinger.edu).



Serpiginous tract of cutaneous larva migrans on the palm (A) and dorsal aspect of the foot (B).

sand or soil diffusely on the body may exhibit lesions in less classic locations, such as the trunk and upper proximal extremities.³

Cutaneous larva migrans is a self-limited eruption, as the larvae cannot complete their lifecycles in the human body and typically die within 2 to 8 weeks.² However, rare cases lasting up to a year have been reported.³ Sarasombath and Young² reported a case of CLM that persisted for 4 months with intermittent symptoms characterized by several weeklong intervals with no symptoms or visible rash.

Cutaneous larva migrans typically presents with isolated dermatologic symptoms. Rare cases associated with Löffler syndrome characterized by migratory pulmonary infiltrates and peripheral eosinophilia have been reported.⁸ Two proposed mechanisms for pulmonary involvement include direct invasion of the lungs by the helminths and a systemic immunologic process triggered by the helminths, resulting in eosinophilic pulmonary infiltration.⁹

Diagnosis

Cutaneous larva migrans is a clinical diagnosis and skin biopsy usually is not obtained because the larvae often are located 1 to 2 cm beyond the visible erythematous border.^{3,5} Rarely, the parasites are found on biopsy, revealing larvae that are 0.5-mm thick and up to 10-mm long.¹⁰ The larvae typically are confined to the deep epidermis because the parasite lacks the collagenase required to penetrate the basement membrane.²

Langley et al¹¹ showed that confocal scanning laser microscopy can be an effective method for identifying the highly refractile oval larva that disrupt the normal honeycomb pattern of the epidermis. Performing a 4-mm punch biopsy over the identified site can allow for precise excision and treatment of the intact hookworm larvae of

CLM. There also are limited reports of dermoscopy being used to facilitate diagnosis of CLM.¹² Dermoscopic features of CLM include translucent, brown, structureless areas in a segmental arrangement corresponding to the larval bodies and red-dotted vessels corresponding to an empty burrow.¹³ However, Zalaudek et al¹³ concluded that the efficacy of dermoscopy in aiding in the diagnosis of CLM has not been fully established.

Treatment

Cutaneous larva migrans is a self-limited condition that often resolves within 2 to 8 weeks; however, pruritus can be intense and patients therefore are seldom willing to forego treatment. Treatment options include a single oral dose of albendazole 400 mg in adults, with increased efficacy if administered daily for 3 to 5 days (or 10–15 mg/kg, with a maximum dose of 800 mg daily in children), a single oral dose of ivermectin 12 mg in adults (or 150 µg/kg in children), or topical application of thiabendazole 10% to 15% three times daily for at least 15 days.¹⁴ Cases of CLM complicated by Löffler syndrome may require a longer treatment course, such as a 7-day course of albendazole 400 mg daily. Tan and Liu⁹ reported a case of CLM complicated by Löffler syndrome that was successfully treated with albendazole. In this patient, initial treatment with 2 courses of mebendazole (3 days each for a total of 6 days) resulted in improvement of cutaneous lesions but not the pulmonary infiltrate. A subsequent prolonged course of albendazole and intravenous hydrocortisone for 5 days resulted in complete resolution of the pulmonary infiltrate and peripheral eosinophilia. The authors concluded that inadequacy of treatment with mebendazole may be related to differences in the rate of absorption and efficacy when compared to albendazole.⁹

Conclusion

Cutaneous larva migrans is a self-limited and pruritic skin eruption that is acquired after direct inoculation with sand or soil that is contaminated with feces containing *A braziliense* or *A caninum*. Although the classic presentation is readily identifiable, there are a variety of atypical presentations that may go undiagnosed. Symptomatic relief usually can be achieved with short courses of oral or topical antihelminth medications.

REFERENCES

1. Berlin JM, Goldberg SJ, McDonough RD, et al. JAAD grand rounds quiz. serpiginous eruption on the leg. *J Am Acad Dermatol*. 2010;63:921-922.
2. Sarasombath PA, Young PK. An unusual presentation of cutaneous larva migrans. *Arch Dermatol*. 2007;143:955.
3. Patel S, Aboutaleb S, Vindhya PL, et al. What's eating you? extensive cutaneous larva migrans (*Ancylostoma braziliense*). *Cutis*. 2008;82:239-240.
4. Elston DM, Czarnik K, Brockett R, et al. What's eating you? *Strongyloides stercoralis*. *Cutis*. 2003;71:22-24.
5. Duarte De Sousa ICV, De La Pascua L. Bilateral cutaneous larva migrans [poster reference number 4677]. *J Am Acad Dermatol*. 2012;66(4, suppl 1):AB106.
6. Caumes E, Ly F, Bricaire F. Cutaneous larva migrans with folliculitis: report of seven cases and review of the literature. *Br J Dermatol*. 2002;146:314-316.
7. Shih PY, Hsieh MY, Huang YH, et al. Multiple pruritic erythematous papules on the trunk after a trip to Thailand—quiz case. *Arch Dermatol*. 2010;146:557-562.
8. Wright DO, Gold ED. Löffler's syndrome associated with creeping eruption (cutaneous helminthiasis): report of twenty-six cases. *Arch Intern Med*. 1946;78:303-312.
9. Tan SK, Liu TT. Cutaneous larva migrans complicated by Löffler's syndrome. *Arch Dermatol*. 2010;146:210-212.
10. Rapini RP, ed. *Practical Dermatopathology*. Philadelphia, PA: Elsevier; 2005.
11. Langley R, Webb A, Haldane D, et al. Confocal microscopy of cutaneous larva migrans. *J Am Acad Dermatol*. 2011;64(2, suppl 1):AB100.
12. Aljasser MI, Lui H, Zeng H, et al. Dermoscopy and near-infrared fluorescence imaging of cutaneous larva migrans. *Photodermatol Photoimmunol Photomed*. 2013;29:337-338.
13. Zalaudek I, Giacomel J, Cabo H, et al. Entodermoscopy: a new tool for diagnosing skin infections and infestations. *Dermatology*. 2008;216:14-23.
14. Caumes E. Treatment of cutaneous larva migrans. *Clin Infect Dis*. 2000;30:811-814.