

# Does cutaneous larva migrans occur only among travelers?

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## ABSTRACT

Cutaneous larva migrans (CLM) is an infectious disease caused by hookworm larvae. It is characterized by the presence of creeping skin lesions due to the formation of tortuous tubules with inflammatory reactions. CLM is most commonly transmitted by animal feces depositing eggs in the soil, with larvae entering humans through direct contact with skin.

A 64-year-old man was admitted to the Dermatology Department to diagnose and treat the one-month history of skin lesions over the skin of the left lower limb. Initially, a small papule appeared, which was indolent, itchy, and fast-growing. The patient denied recent international travel and was diagnosed with eczema cruris with secondary bacterial infection and treated with no improvement. On admission, papular lesions with tunnels and serpiginous erythema on the left limb with accompanying intense pruritus were noted. Laboratory studies revealed anemia and hematuria. Based on the clinical picture cutaneous larva migrans were diagnosed. Systemic treatment with mebendazole and topical treatment resulted in fast clinical improvement.

Although cutaneous larva migrans is usually endemic, due to the increasing frequency of foreign travels, the disease prevalence rises. Most of the cases are initially underdiagnosed, which results in a delay in proper treatment. Therefore, pruritic lesions, and especially showing no improvement after treatment with corticosteroids and antihistamines, parasitic etiology should always be considered.

### Forum Derm.

**Keywords:** cutaneous larva migrans, parasitosis, pruritus, creeping eruption

## INTRODUCTION

Cutaneous larva migrans (CLM) is a common parasitic skin condition found primarily in tropical and subtropical regions. It occurs through direct skin contact with soil contaminated by the feces of dogs and cats carrying hookworm larvae [1]. The primary nematodes responsible for this zoonotic infection are *Ancylostoma caninum*, and *Ancylostoma brasiliense* [2]. The characteristic lesions are serpiginous, erythematous, and edematous tracks caused by the movement of the larvae within the skin. Cutaneous larva migrans typically develops when nematode larvae penetrate the epidermis and migrate into the dermis. In warmer climates, the infection most commonly affects the distal lower limbs, as it is often contracted by walking barefoot on contaminated ground [3]. Rare clinical presentations include parasitic folliculitis [4] and, in some cases, nodular migratory panniculitis instead of the classic creeping eruptions [5]. We report a case of CLM with a complicated course in a patient denying recent international travel emphasizing the diagnostic challenges in such cases.

## CASE REPORT

64-year-old male patient working in agriculture presented with a one-month history of skin lesions over the skin of the left lower limb. At first, a small papule appeared, which was painless but itchy and rapidly enlarging. The patient denied recent international travel, as well as any family history of skin and social diseases. His past medical history contains the removal of skin lesions in the right scapular and angle of mandible regions. Histopathology of those sections revealed basal cell carcinoma. Due to the reported symptoms, the patient was admitted to the Infectious Diseases Ward and initially diagnosed with eczema cruris with secondary bacterial infection due to scratching. He received treatment with oral antibiotics, antifungals, antihistamines, topical steroids, and antibiotics but these provided no improvement.

Upon admission to the Dermatology Department, a physical examination revealed papular lesions with tunnels, serpiginous erythema, exfoliation, and features of lichen on the left lower limb (Fig. 1), all accompanied by intense pruritus. Given these findings, the differential

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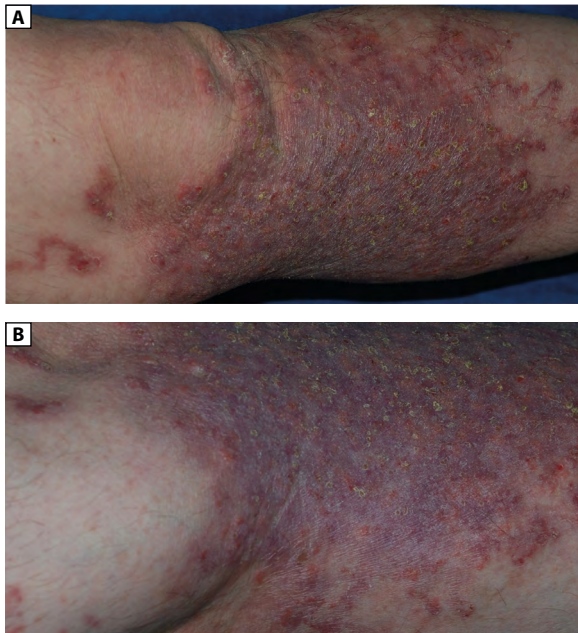
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**Figure 1A, B.** Erythematous-papular lesions followed by scaling and serpiginous track

diagnosis included conditions such as dermatitis, scabies, and fungal or parasitic infection. Laboratory tests indicated anemia [red blood cells (RBC)  $4.46 \times 10^{12}/L$ , hemoglobin (HGB) 11.9 g/dL, hematocrit (HCT) 35.4%] eosinophilia (EO% = 13.4%) and hematuria, which further suggested a parasitic etiology. Chest X-ray did not reveal any deviations. No bacteria in the swab from skin lesions were detected. Mycological examination was negative. Based on the clinical presentation cutaneous larva migrans was confirmed. The patient was started on systemic treatment with mebendazole (100 mg three times daily), hydroxyzine, and cetirizine along with topical treatment consisting of sulfur ointment 5%, triamcinolone, and cryotherapy which resulted in rapid clinical improvement.

## DISCUSSION

Cutaneous larva migrans is prevalent in many resource-limited communities in developing countries [6]. Global warming and the increasing frequency of international travel, however, are expanding the geographic regions where the infection can occur [7]. In Europe, cases of CLM are typically linked to travel to tropical or subtropical regions, as the continent, including Southern Europe, is not an endemic area. Nevertheless, a few instances of locally acquired CLM have been documented [8]. Infection often occurs through walking barefoot or wearing open-toe footwear, allowing larvae to penetrate the skin [9]. These larvae migrate within the epidermis, between the stratum germinativum and the stratum corneum [10].

The resulting lesions are most commonly found on the lower distal extremities, such as the tops of the feet and the spaces between the toes but may also appear in the anogenital region. Secondary infections can sometimes complicate these lesions, which are often accompanied by intense itching. Typically, the eruption resolves within 2 to 8 weeks but can persist for years in some cases [9]. Systemic complications, such as peripheral eosinophilia (Loeffler syndrome), pulmonary infiltrates, and elevated immunoglobulin E (IgE) levels, are rare [11].

## CONCLUSIONS

In temperate climates, such as Poland, CLM is often misdiagnosed initially [12]. This results in a delay in starting the proper treatment and quite often leads to the exacerbation of clinical manifestations due to ineffective treatment with topical corticosteroids. Physicians should consider CLM in patients presenting with a characteristic rash, as prompt diagnosis significantly improves treatment outcomes [13]. The presented case emphasizes the need to pay attention to the possibility of CLM in patients exposed to frequent contact with potentially contaminated soil.

## Article information and declarations

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### Conflict of interest

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## REFERENCES

1. Lesshafft H, Schuster A, Reichert F, et al. Knowledge, attitudes, perceptions, and practices regarding cutaneous larva migrans in deprived communities in Manaus, Brazil. *J Infect Dev Ctries.* 2012; 6(5): 422–429, doi: [10.3855/jidc.2122](https://doi.org/10.3855/jidc.2122), indexed in Pubmed: [22610709](https://pubmed.ncbi.nlm.nih.gov/22610709/).
2. Kuna A, Olszański R, Sikorska K. Cutaneous larva migrans as a frequent problem in travellers. *Int Marit Health.* 2023; 74(4): 259–264, doi: [10.5603/imh.98098](https://doi.org/10.5603/imh.98098), indexed in Pubmed: [38111246](https://pubmed.ncbi.nlm.nih.gov/38111246/).
3. Sakai H, Otsubo S, Nakao M, et al. Multiple papules and nodules on the face and neck caused by the larvae of an unknown nematode: A non-creeping type eruption. *J Am Acad Dermatol.* 2008; 58(4): 668–670, doi: [10.1016/j.jaad.2007.06.023](https://doi.org/10.1016/j.jaad.2007.06.023), indexed in Pubmed: [18342712](https://pubmed.ncbi.nlm.nih.gov/18342712/).
4. 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(2): 314–316, doi: [10.1046/j.0007-0963.2001.04531.x](https://doi.org/10.1046/j.0007-0963.2001.04531.x), indexed in Pubmed: [11903247](https://pubmed.ncbi.nlm.nih.gov/11903247/).

5. Ashitani J, Kumamoto K, Matsukura S. Paragonimiasis westermani with multifocal lesions in lungs and skin. *Intern Med.* 2000; 39(5): 433–436, doi: [10.2169/internalmedicine.39.433](https://doi.org/10.2169/internalmedicine.39.433), indexed in Pubmed: [10830191](https://pubmed.ncbi.nlm.nih.gov/10830191/).
6. Jackson A, Heukelbach J, Calheiros CM, et al. A study in a community in Brazil in which cutaneous larva migrans is endemic. *Clin Infect Dis.* 2006; 43(2): e13–e18, doi: [10.1086/505221](https://doi.org/10.1086/505221), indexed in Pubmed: [16779735](https://pubmed.ncbi.nlm.nih.gov/16779735/).
7. Ryguła A, Kowalski M, Hryncewicz-Gwóźdź A, et al. Cutaneous larva migrans — case report and literature review. *Fam Med Prim Care Rev.* 2023; 25(3): 367–370, doi: [10.5114/fmpcr.2023.130099](https://doi.org/10.5114/fmpcr.2023.130099).
8. Del Giudice P, Hakimi S, Vandenbos F, et al. Autochthonous cutaneous larva migrans in France and Europe. *Acta Derm Venereol.* 2019; 99(9): 805–808, doi: [10.2340/00015555-3217](https://doi.org/10.2340/00015555-3217), indexed in Pubmed: [31073620](https://pubmed.ncbi.nlm.nih.gov/31073620/).
9. Neupane SK, Shah S, Neupane PK, et al. Cutaneous larva migrans: A case report successfully treated with albendazole. *Ann Med Surg* (Lond). 2022; 84: 104904, doi: [10.1016/j.amsu.2022.104904](https://doi.org/10.1016/j.amsu.2022.104904), indexed in Pubmed: [36582866](https://pubmed.ncbi.nlm.nih.gov/36582866/).
10. Richey TK, Gentry RH, Fitzpatrick JE, et al. Persistent cutaneous larva migrans due to *Ancylostoma* species. *South Med J.* 1996; 89(6): 609–611, doi: [10.1097/00007611-199606000-00010](https://doi.org/10.1097/00007611-199606000-00010), indexed in Pubmed: [8638201](https://pubmed.ncbi.nlm.nih.gov/8638201/).
11. Schaub NA, Perruchoud AP, Buechner SA. Cutaneous larva migrans associated with Löffler's syndrome. *Dermatology.* 2002; 205(2): 207–209, doi: [10.1159/000063917](https://doi.org/10.1159/000063917), indexed in Pubmed: [12218250](https://pubmed.ncbi.nlm.nih.gov/12218250/).
12. Wieczorek A, Szepietowski J. Cutaneous larvamigrans. *Dermatol Rev.* 2016; 103(4): 292–294, doi: [10.5114/dr.2016.61778](https://doi.org/10.5114/dr.2016.61778).
13. Wesołowski R, Miła-Kierzenkowska C, Pawłowska M, et al. Cutaneous larva migrans imported from a tropical trip — case report and literature review. *Ann Agric Environ Med.* 2021; 28(4): 709–712, doi: [10.26444/aaem/131600](https://doi.org/10.26444/aaem/131600), indexed in Pubmed: [34969233](https://pubmed.ncbi.nlm.nih.gov/34969233/).