International Journal of Research and Review
[Indexed, Peer-Reviewed Journal]
Volume 12; Issue: 9; September 2025
Website: www.ijrrjournal.com
Case Report *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

When Diagnosis Makes the Difference: A Simple Management of Cutaneous Larva Migrans in Traveler

Ida Ayu Trisna Wulandari[1], Putu Eksa Bidja[1], Putu Krisna Yamadewi[1]

[1]Hydro Medical Clinic, Badung, Bali, Indonesia.

Corresponding Author: Ida Ayu Trisna Wulandari

DOI: https://doi.org/10.52403/ijrr.20250904

ABSTRACT

Background: Cutaneous Larva Migrans (CLM) is a zoonotic dermatosis caused by the percutaneous penetration and intraepidermal migration of hookworm larvae, typically Ancylostoma braziliense and A. caninum. It is endemic in tropical and subtropical regions and has increasingly been reported among international travelers. Although clinical diagnosis is often straightforward, misdiagnosis can occur in atypical or early presentations.

Case presentation: A 31-year-old female traveler from UK, presented to our clinic with an intensely pruritic, serpiginous erythematous lesion on the dorsal aspect of her left foot after returning from a month-long trip to Thailand. The lesion had developed two weeks prior and worsened despite initial treatment with topical azole antifungals. Physical examination revealed a characteristic 10 cm serpiginous plaque, consistent with CLM. Treatment with oral albendazole 400 mg daily for five days and cetirizine 10 mg led to symptom resolution within one week, leaving only post-inflammatory hyperpigmentation.

Conclusion: CLM should be considered in patients presenting with serpiginous skin eruptions and a recent history of travel to endemic areas, especially tropical beaches. Heightened clinical awareness is essential to ensure accurate and prompt management, particularly in tourism-heavy regions such as Indonesia.

Keywords: *Cutaneous Larva migrans; Creeping Eruption; Hookworm; Travel-Related Dermatosis*

INTRODUCTION

Cutaneous Larva Migrans (CLM) is a parasitic skin disease caused by the invasion and migration of hookworm larvae—primarily Ancylostoma braziliense and Ancylostoma caninum—within the epidermis. The condition is prevalent in tropical and subtropical regions, with community-based studies reporting prevalence rates of up to 8%.[1] Data from travel medicine clinics indicate that CLM accounts for approximately 8% to 49% of dermatological conditions diagnosed in returning travelers.[2]

In Asia, CLM is among the most common travel-associated dermatoses. A recent case series involving a Sudanese patient highlighted the typical presentation of CLM following exposure in Thailand. Global surveillance data attribute nearly 20% of reported CLM cases to travelers visiting Thailand.[3,4] Several case reports detail extensive infections acquired from beaches. Although less frequently reported, CLM is also present in Indonesia. A comprehensive review published in 2024 confirms the occurrence of CLM in Indonesia, describing

its pathophysiology, diagnostic approach, and treatment strategies suitable for the country's tropical climate.[5]

CASE REPORT

A 31-year-old non-pregnant female presented to a clinic in Bali with complaints of persistent itching and a reddish rash on her left foot. The symptoms began approximately two weeks prior, with the pruritus worsening at night. Initially, she noticed small, itchy red papules, which later expanded and developed into serpiginous, thread-like lesions. The patient is a British citizen and reported having returned from a one-month vacation in Thailand, during which she often walked barefoot on the beaches. She had been previously treated with a topical azole antifungal cream, but the symptoms persisted and became increasingly bothersome during her trip. The patient denied any history of similar symptoms, allergies, chronic illnesses, or regular medication use.

Upon physical examination, her general condition was stable, with normal vital signs. Dermatological evaluation revealed a 10 cm erythematous, serpiginous plaque on the medial aspect of the left dorsal foot (figure 1). A clinical diagnosis of cutaneous larva migrans (CLM), also known as creeping eruption, was made based on the characteristic lesion and travel history. The patient was treated with oral albendazole 400 mg once daily for five days and cetirizine 10 mg once daily. One week after treatment initiation, the patient reported complete resolution of pruritus, and the erythematous plaque had significantly improved, leaving behind post-inflammatory hyperpigmentation (figure 2).

Figure 1. Clinical picture of first-time patient was admitted revealed a 10 cm erythematous, serpiginous plaque on the medial aspect of the left dorsal foot

Figure 2. One week after treatment. Erythematous plaque had significantly improved, leaving behind post-inflammatory hyperpigmentation.

DISCUSSION

Cutaneous Larva Migrans (CLM) is a parasitic skin infection caused by the migration of hookworm larvae through the epidermis. The most common causative agents include Ancylostoma braziliense, Ancylostoma caninum, and Uncinaria stenocephala. Transmission typically occurs through skin contact with contaminated soil containing larvae from the feces of infected animals, such as cats and dogs. These larvae penetrate the skin using proteolytic enzymes and migrate within the superficial layers, producing serpiginous tracks.[6] The condition is also referred to as creeping eruption, sandworm disease, plumber's itch, or dermatosis linearis migrans.[7] CLM is most prevalent in tropical and subtropical regions, including parts of Central and South America, the Caribbean, Africa, Southeast Asia, and Australia.[8] In recent years, the expansion of global travel and climate change have broadened the geographical distribution of the disease.[9] In Indonesia, especially Bali, where tourism is high and barefoot beach activity is common, both locals and travelers are at risk.

In the natural lifecycle, hookworm larvae typically infect their definitive hosts—such as dogs and cats—penetrating the skin and migrating via the bloodstream to the lungs, then up the trachea to the gastrointestinal tract, where they mature and reproduce.[6] However, in humans, larvae cannot penetrate the basal membrane of the epidermis because the enzymes produced are not sufficient for deeper penetration. They can't complete their lifecycle and remain confined to the outer epidermis, resulting in visible, serpentine tracks. Infection in humans often occurs through barefoot exposure or the use of open-toed footwear.[10] Similar history of walking bare foot on the beaches in tropical countries was present in our patient.

CLM is typically diagnosed clinically, based on lesion morphology and patient history. The lesions usually begin as pruritic papules, progressing into serpiginous erythematous tracks that grow several millimeters per day. Affected areas commonly include the feet, buttocks, thighs, and back—parts of the body most likely to contact contaminated sand or soil. Systemic symptoms are rare as humans are incidental, dead-end hosts. Atypical presentations may lead to diagnostic confusion. Early lesions can mimic insect bites, herpes zoster, or tinea infections. If multiple larvae are involved, early papules may resemble varicella-zoster, and polycyclic patterns may be mistaken for dermatophytosis. In unclear diagnosis, eosinophilia and elevated IgE levels may be found in blood tests. Biopsy is generally not recommended. Diagnostic confirmation can be supported by non-invasive methods such as dermoscopy or ELISA testing.[3]

In the presented case, diagnosis was based solely on clinical features and travel history. The lesion was a 10 cm serpiginous erythematous plaque without systemic symptoms. The patient's initial therapy with topical antifungals, likely administered under the suspicion of tinea pedis, was ineffective. This highlights the risk of misdiagnosis in early stages, despite CLM's characteristic appearance.

Although CLM is self-limiting and may resolve in 2–8 weeks, untreated lesions can persist for up to two years. Anthelmintic therapy accelerates recovery, reduces pruritus, and prevents secondary infections.[8] First-line treatments include oral albendazole (400 mg daily for 3–7 days) or ivermectin (200 mcg/kg as a single dose). For children over 2 years and those weighing more than 15 kg, similar regimens apply. In pregnant patients or young children, topical therapy with 10–15% thiabendazole applied 3 times a day for 15 days or ivermectin preparations may be considered, though less effective for extensive or follicular lesions.[2] In this case, treatment with albendazole 400 mg once daily for five days was effective. The patient experienced full symptom resolution within a week, although post-inflammatory hyperpigmentation remained.

CONCLUSION

Cutaneous Larva Migrans (CLM) is a zoonotic skin infection caused by various hookworm species, most commonly Ancylostoma braziliense, A. caninum, and Uncinaria stenocephala. It is clinically characterized by serpiginous, pruritic skin lesions resulting from larval migration within the epidermis. Despite its distinctive clinical presentation, CLM often goes unrecognized, especially in non-endemic areas, leading to diagnostic delays and inappropriate treatment. With the increasing frequency of international travel, particularly to tropical destinations, awareness of CLM is essential among clinicians. CLM can be simply and responsively treated as long as it is preceded by an appropriate diagnosis. It will significantly reduce patient discomfort and prevent unnecessary interventions. Although the condition is usually self-limiting, prompt diagnosis and treatment with antihelminthic agents like albendazole or ivermectin can hasten recovery and minimize complications. In light of its clinical

relevance, especially in popular tourist regions such as Indonesia, continued efforts to raise awareness and understanding of CLM among healthcare professionals are warranted.

Declaration by Authors

Acknowledgement: None
Source of Funding: None
Conflict of Interest: No conflicts of interest declared.

REFERENCES

1. Solafa Osman, Nectaria Tarnari, Areeba Ahsan, Khabab Abbasher Hussien Mohamed Ahmed, Cutaneous Larva Migrans (CLM) may not be easy to diagnose: a case report and narrative review, Oxford Medical Case Reports, Volume 2024, Issue 4, April 2024, omae025, https://doi.org/10.1093/omcr/omae025
2. Kuna A, Olszański R, Sikorska K. Cutaneous larva migrans as a frequent problem in travellers [Internet]. 2023 [cited 2025 Jun 27]. Available from: https://journals.viamedica.pl/international_maritime_health/article/view/98098/75650
3. Osman S, Tarnari N, Ahsan A, Ahmed KAHM. Cutaneous Larva Migrans (CLM) may not be easy to diagnose: a case report and narrative review. Oxf Med Case Reports. 2024 Apr 25;2024(4): omae025. doi: 10.1093/omcr/omae025. PMID: 38680772; PMCID: PMC11049579.
4. Bopp L. Treatment of cutaneous larva migrans - bopp - 2025 - JDDG: Journal der Deutschen Dermatologischen gesellschaft - wiley online library [Internet]. 2025 [cited 2025 Jun 27]. Available from: https://onlinelibrary.wiley.com/doi/10.1111/ddg.15611
5. Suprapto, Mega & Astari, Linda & Rusli, Musofa. (2024). Cutaneous Larva Migrans: A comprehensive review of pathogenesis, diagnosis, and treatment. World Journal of Advanced Research and Reviews. 24. 1719-1722. 10.30574/wjarr.2024.24.3.3799.
6. Dunja M. Vesković1, Dejan M. Ogorelica, Siniša Đ. Sević, Aleksandra M. Fejsa Levakov, Branislava M. Gajić1, Tatjana N. Roš. 2021. Easy to manage when recognized: Case Report of Cutaneous Larva Migrans. Hospital Pharmacology. 8(1):1026-1031.
7. Novita Stevani, Buhari Bangbang. 2018. Cutaneous Larva Migrans. Cermin Dunia Kedokteran. 45(3).
8. Wiraguna, AAGP., dkk. (2024). Buku Ajar Dermatologi & Venerologi Dasar. KSM Dermatologi dan Venerologi Fakultas Kedokteran Universitas Udayana. Denpasar: Bali Internasional Press.
9. Neupane SK, Shah S, Neupane PK, Paudel Jaishi P. 2022. Cutaneous larva migrans: A case report successfully treated with albendazole. Ann Med Surg (Lond). Nov 12; 84:104904. doi: 10.1016/j.amsu.2022.104904. PMID: 36582866; PMCID: PMC9793225.
10. Avissa, Tuesi Fredella; Gunawan, Hendra; and Hidayah, Risa Miliawati Nurul (2022) "Clinicodemographic Characteristics of Cutaneous Larva Migrans: A 10-year Study In Tertiary Referral Hospital-West Java, Indonesia," Journal of General - Procedural Dermatology & Venereology Indonesia: Vol. 6: Iss. 2, Article 3. DOI: 10.7454/jdvi.v6i2.1002.

How to cite this article: Ida Ayu Trisna Wulandari, Putu Eksa Bidja, Putu Krisna Yamadewi. When diagnosis makes the difference: a simple management of cutaneous Larva Migrans in Traveler. *International Journal of Research and Review*. 2025; 12(9): 19-22. DOI: *10.52403/ijrr.20250904*

******