Dermatology Reports

https://www.pagepress.org/journals/index.php/dr/index

eISSN 2036-7406

Please cite this article as: Martella A. Skin infection by larva migrans and scabies mites: case reports on unusual skin localizations. *Dermatol Rep 2025 [Epub Ahead of Print] doi: 10.4081/dr.2025.10098*

Submitted 25/07/24 - Accepted 24/01/25

Skin infection by larva migrans and scabies mites: case reports on unusual skin localizations

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Key words: skin infection; larva migrans; scabies mites; unusual skin localizations.

Conflict of interest: the authors declare that they have no competing interests.

Ethics approval and consent to participate: this retrospective review of patients' data does not require ethical approval in accordance with local guidelines.

Consent for publication: the patients gave their written consent to use their personal data for the publication of this case report and any accompanying images.

Availability of data and materials: all data generated or analyzed during this study are included in this published article.

Funding: editorial assistance was supported by Dermatologia Myskin Srl.

Acknowledgments: editorial assistance was provided by Simonetta Papa, PhD, Valentina Attanasio, and Aashni Shah (Polistudium SRL, Milan, Italy). This assistance was supported by Dermatologia Myskin Srl.

Abstract

Unusual skin infection localization represents a challenge to physicians regarding presentation and mode of acquisition, all of which might influence the diagnosis. At the same time, the administration of incorrect drugs due to a misdiagnosis might have a negative impact on the disease course. This article presents two case reports detailing the unusual presentation of larva migrans and scabies mites infection in two Italian patients, highlighting the importance of clinical vigilance and comprehensive evaluation of patients. These cases suggest how an accurate diagnosis requires a high index of suspicion and appropriate diagnostic tools, such as dermoscopy, for the prompt recognition of skin infections and the consequent optimal patient outcome.

Introduction

Larva migrans, related to animal hookworm larvae, and scabies, caused by the *Sarcoptes scabiei* mite, are common dermatologic conditions worldwide that typically present with characteristic clinical manifestations and skin localization.[1,2]

Larva migrans infection occurs when the filariform larva of the hookworm penetrates the epidermis of a human's skin, generally in parts of the body that are frequently exposed to contaminated soil, such as the feet, hands, and buttocks.[3] The hookworm is unable to travel into deeper layers of the skin due to a deficiency in the collagenase enzyme.[4] Thus, they migrate throughout the epidermis, creating the classic superficial serpiginous tracks, which may last from a few weeks to months. Anthelmintic therapies can shorten the duration of the infection, which often fully resolves without treatment.[5,6] In larva migrans infection, pruritus is a localized symptom that typically follows the migration of larvae beneath the epidermis, often described as mild to moderate but persistent. This symptom is a key diagnostic feature, as the associated serpiginous tracks are usually accompanied by itching.

Scabies is a skin infestation from tiny mites that can cause skin discoloration, swelling, and severe itching. In particular, scabies are characterized by intense, widespread pruritus, which is often exacerbated at night due to the nocturnal activity of the mites. This severe itching frequently serves as a primary clinical clue, aiding in the differentiation of scabies from other dermatologic conditions with similar presentations. The infestation begins with the female mite burrowing within the stratum corneum of its host, where it lays its eggs, which later develop into larvae, nymphs, and adults. The scabies infection often manifests with hyperkeratotic plaques that can be diffused or localized to the palms, soles, and under fingernails.[7] The clinical presentation may resemble infections caused by other sources, such as bacteria, fungi,

parasites, and viruses;[8] thus, scabies is often misdiagnosed as eczema, dermatitis prurigo nodularis, or lupus erythematosus.

While the typical presentations of larva migrans and scabies infections are well-described, instances of unusual skin localization are sporadically reported. These atypical presentations may mimic other dermatologic conditions, leading to diagnostic delays and suboptimal management. Therefore, rare cases with atypical skin localization should be promptly reported, as they may pose diagnostic challenges and require tailored management approaches.

Here, we present two case reports detailing unusual presentations of larva migrans and scabies mites infection in two Italian patients, highlighting the importance of clinical vigilance and comprehensive evaluation even in such a clinical context.

Case Reports

Case 1

Unusual presentation of larva migrans: a case of breast involvement

A 60-year-old female patient presented with a serpiginous, asymptomatic lesion to the left breast (Figure 1A). The clinical picture was strongly suggestive of larva migrans infection. Notably, over the years, the patient had not moved from Salento because she was undergoing chemotherapy after the diagnosis of breast cancer. Chemotherapy was completed six months prior to presentation, and the patient was not on active treatment.

Given the unusualness of the affected body site and atypical geographical area, dermoscopy (FotoFinder ATBM with Medicam 1000; 20× magnification, Figure 1B) was performed on the serpiginous lesion, which appeared as a structureless, greyish, and translucent area. A skin biopsy was also performed, though it was not a specific diagnostic test, and revealed signs of chronic inflammation as well as the presence of rounded eosinophil formations caused by larva migrans in the peripheral portion. The patient was then treated with albendazole 400 mg once a day for 5 days, reporting the resolution of the lesion (Figure 2 A,B).

The peculiarities of this case were the rather unusual location of the infection and the finding of an autochthonous case in Salento, southern Italy, as the patient reported that she had never been to tropical countries where the larva migrans resides. Moreover, the patient's clinical history suggests a potential relationship between immunosuppression and increased susceptibility to infections.

Case 2

Scabies mites in the scalp: an uncommon manifestation

A 66-year-old female patient presented with itching of the scalp, which had caused hair thinning over the months (Figure 3). The patient did not have other cutaneous lesions, as confirmed through a comprehensive examination, was not immunosuppressed, and was not taking other medications. The patient consulted several dermatologists, who prescribed different topical cortisone-based treatments without benefit. Indeed, after an initial improvement in redness due to the anti-inflammatory action of topical steroids, a worsening of the itchy symptoms was reported, resulting from the proliferation of scabies mites favored by steroid therapy. Pruritus was reported as persistent throughout the day, without specific nocturnal exacerbation.

Dermoscopy (FotoFinder ATBM with Medicam 1000; 20× magnification, Figure 3A) analysis reported the presence of a carpet of *Sarcoptes*, suggesting the diagnosis of scabies mites' infection. The patient was prescribed 20% benzyl benzoate in Lassar paste twice a day for 7+7 days, resulting in complete healing (Figure 3B). No other family members exhibited symptoms of scabies. However, prophylactic treatment with benzyl benzoate was recommended for the household contacts.

Discussion

Unusual skin infection localization represents a challenge to physicians in terms of presentation and mode of acquisition, all of which might influence the diagnosis. At the same time, the administration of incorrect drugs due to a wrong diagnosis might have a negative impact on the disease course, as reported in the literature regarding the effect of topical corticosteroids on the progression of the cutaneous trail of larva migrans.[9]

In Europe, larva migrans infections have been reported mainly in travelers to endemic areas,[10] while reports of autochthonous cases are rare and isolated,[11-13] and multiple cases are exceptional.[14] This may be due to the difficult conditions for the development and spread of the infection in temperate areas.

To the best of available knowledge, this report is among the first to present an Italian patient infected by larva migrans without direct contact with endemic areas[15] and with an uncommon clinical presentation. Literature evidence reports the possibility of parasitosis in patients undergoing chemotherapy.[16] Thus, the patient's history, including prior chemotherapy, adds clinical complexity, suggesting a potential relationship between immunosuppression and increased susceptibility to parasitic infections.

Scabies represent a significant public health issue worldwide, including in Italy.[17,18] Scabies typically manifest with pruritic lesions in specific body areas. Factors contributing to unusual

localization include host immune status, concurrent skin conditions, and environmental factors. In these cases, an accurate diagnosis requires a high index of suspicion and appropriate diagnostic tools, such as dermoscopy. In the current case, thinning hair accompanied by scalp redness mimicked chronic dermatitis or psoriasis, leading to misdiagnosis and inappropriate treatment. Topical steroids initially reduced redness due to their anti-inflammatory effects; however, this temporary improvement was followed by worsening pruritus, driven by the proliferation of scabies mites exacerbated by steroid use. A definitive diagnosis was only achieved through dermoscopy, which revealed the presence of the mites. Of note, in recent years, UV-dermoscopy has emerged as a valuable diagnostic tool for identifying scabies in challenging and atypical cases. This technique can enhance the visualization of scabies-specific features, such as burrows and mite structures, by utilizing fluorescence to highlight these findings against a darker background. Incorporating UV-dermoscopy into diagnostic protocols could be particularly beneficial in cases like those discussed in this article, where standard clinical examination might overlook subtle presentations.[19,20]

Conclusions

These case reports provide valuable insights into rare manifestations of skin infections and underscore the importance of a comprehensive approach to diagnosis and management. Increased awareness among healthcare providers and prompt recognition of skin infections are essential for optimal patient outcomes. Therefore, reports describing the clinical presentation and treatment of cases with atypical geographical and clinical presentation can increase our knowledge of the disease and update its epidemiology.

References

1. Bowman DD, Montgomery SP, Zajac AM, et al. Hookworms of dogs and cats as agents of cutaneous larva migrans. Trends Parasitol 2010;26:162–7.
2. Chosidow O. Clinical practices. Scabies. N Engl J Med 2006;354:1718–27
3. Feldmeier H, Heukelbach J. Epidermal parasitic skin diseases: a neglected category of poverty-associated plagues. Bull World Health Organ 2009;87:152–9.
4. Ma D-L, Vano-Galvan S. Creeping eruption—cutaneous larva migrans. N Engl J Med 2016;374:e16.
5. Caumes E. Treatment of cutaneous larva migrans. Clin Infect Dis 2000;30:811–4.
6. Campoli M, Cortonesi G, Tognetti L, et al. Noninvasive imaging techniques for the diagnosis of cutaneous larva migrans. Skin Res Technol 2021;28:374–6.
7. Murray RL, Crane JS. Scabies. [Updated 2023 Jul 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK544306/
8. Kandi V. Laboratory Diagnosis of Scabies Using a Simple Saline Mount: A Clinical Microbiologist's Report. Cureus 2017;9:e1102.
9. Akkouche W, Ahmed SA, Sattin A, et al. Autochthonous Hookworm-Related Cutaneous Larva Migrans Disease in Northeastern Italy: A Case Report. J Parasitol 2015;101:488-9.
10. Bouchaud O, Houzé S, Schiemann R, et al. Cutaneous larva migrans in travelers: a prospective study, with assessment of therapy with ivermectin [published correction appears in Clin Infect Dis 2001;32:523]. Clin Infect Dis 2000;31:493-8.
11. Herbener D, Borak J. Cutaneous larva migrans in northern climates. Am J Emerg Med 1988;6:462-4.
12. Albanese G, Di Cintio R, Beneggi M, et al. Larva migrans in Italy. Int J Dermatol 1995;34:464-5.
13. Zimmermann R, Combemale P, Piens MA, et al. Larva migrans cutanée autochtone en France. A propos d'un cas [Cutaneous larva migrans, autochthonous in France. Apropos of a case]. Ann Dermatol Venereol 1995;122:711-4.
14. Klose C, Mravak S, Geb M, et al. Autochthonous cutaneous larva migrans in Germany. Trop Med Int Health 1996;1:503-4.
15. Galanti B, Fusco FM, Nardiello S. Outbreak of cutaneous larva migrans in Naples, southern Italy. Trans R Soc Trop Med Hyg 2002;96:491-2.

16. Wambier CG, Lemos FB, Cappel MA, et al. Generalized serpiginous eruption during immunosuppressive treatment for leprosy reactive neuritis. PLoS Negl Trop Dis 2011;5:e1357.
17. De Lucia M, Potestio L, Costanzo L, et al. Scabies outbreak during COVID-19: an Italian experience. Int J Dermatol 2021;60:1307-8.
18. Karimkhani C, Colombara DV, Drucker AM, et al. The global burden of scabies: a cross-sectional analysis from the Global Burden of Disease Study 2015. Lancet Infect Dis 2017;17:1247-54.
19. Meduri AR, Ciccarese G, Viola R, et al. Role of ultraviolet dermoscopy in detecting scabies signs. Skin Res Technol 2024;30:e70080.
20. Yürekli A, Muslu İ, Pektaş SD, et al. Using Ultraviolet Dermoscopy in Diagnosing Scabies. Experiment Dermatol 2023;32:1996–9.

Figure 1. Serpiginous, asymptomatic lesion to the left breast at presentation. **A)** Clinical image; **B)** dermoscopy image. 20× magnification.

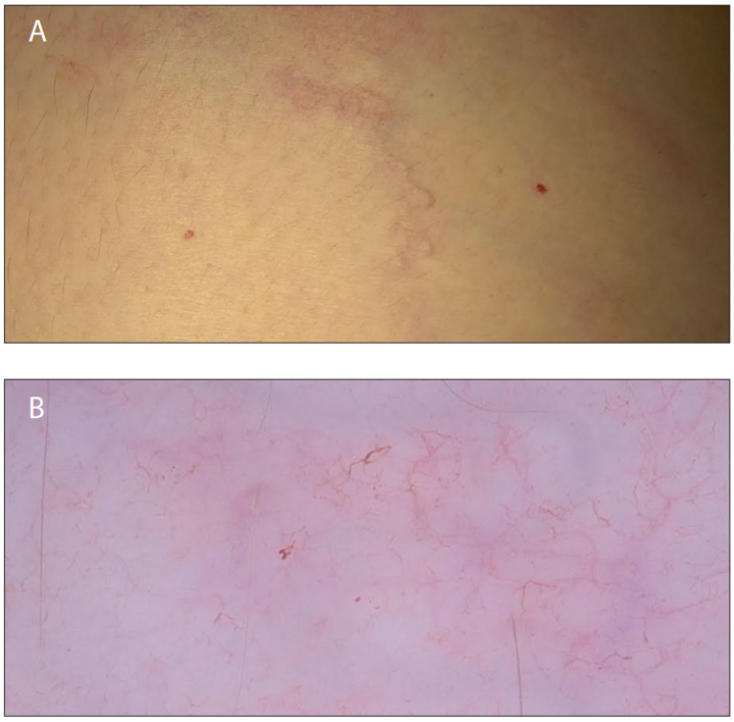

Figure 2. Lesion after the 5-day treatment. **A)** Clinical image; **B)** dermoscopy image. 20× magnification.

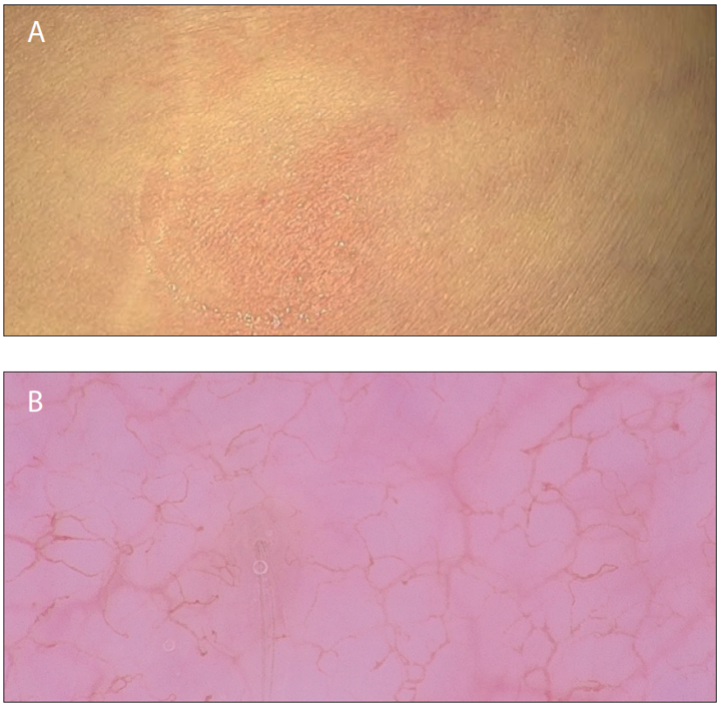

Figure 3. Scabies mites in the scalp. **A)** Scalp at presentation, with thinning hair: 1) clinical image; 2) dermoscopy image reported the presence of *Sarcoptes*. **B)** Scalp after the treatment with 20% benzyl benzoate in Lassar paste: 1) clinical image; 2) dermoscopy image documenting the complete disappearance of the parasitosis.