

# Cutaneous larva migrans: is dermoscopy useful for the treatment?

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## Abstract

Cutaneous larva migrans (CLM) is a zoonotic disease endemic in tropical regions. CLM diagnosis mainly relies on the morphology of the skin lesions; however, dermoscopy can improve diagnostic accuracy. In this paper, we report two cases of CLM to highlight the importance of dermoscopic follow-up in the early identification of treatment failure and the effectiveness of topical ivermectin as a combined medication.

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## Introduction

Cutaneous larva migrans (CLM) is a zoonotic disease endemic in tropical regions. It is caused by filariform larvae of several hookworm species, which penetrate beneath the skin after contact with infected animals' feces.<sup>1</sup> CLM diagnosis mainly relies on the morphology of the skin lesions. However, dermoscopy can improve diagnostic accuracy and differential diagnosis from its mimics.<sup>2</sup> Dermoscopic evaluation usually reveals translucent, brownish, structureless areas. These areas are arranged segmentally and correspond to the helminth's body. Around the bodies, red-dotted vessels and whitish/yellowish scales are arranged in the empty burrows, and their presence suggests a variable grade of phlogistic reaction.<sup>3,4</sup> In this paper, we aim to report two cases of CLM in which dermoscopy evaluation was crucial in the diagnosis and guided the treatment plan.

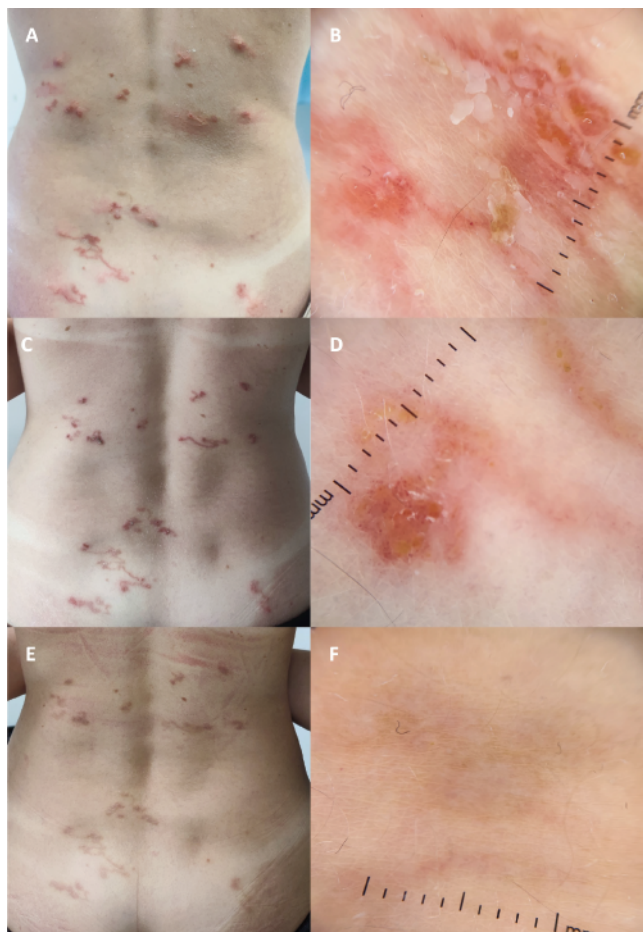
## Case Report

### Case #1

A 28-year-old woman has been referred to our clinic, presenting a pruritic and creeping eruption widely located on the back after returning from a trip to Thailand. Physical examination showed numerous elevated lesions arranged in linear, tortuous tracts 10-15 cm long, especially in the lumbar region (Figure 1A). Dermoscopy revealed reddish serpiginous tracks, red dots, and yellow-whitish scales (Figure 1B). The patient was diagnosed with CLM and was treated with albendazole 400 mg orally for 7 days. At the 2-week follow-up, reddish serpiginous tracks with brownish crusts were still present at dermoscopic evaluation, and the patient still complained of itching (Figure 1 C,D). In suspicion of partial response to albendazole, the patient underwent off-label 0.1% ivermectin cream for 2 weeks. At a 4-week follow-up, a complete remission was obtained, and dermoscopy only showed post-inflammatory pigmentation (Figure 1 E,F). No recurrence was observed at the 2-month follow-up.

### Case #2

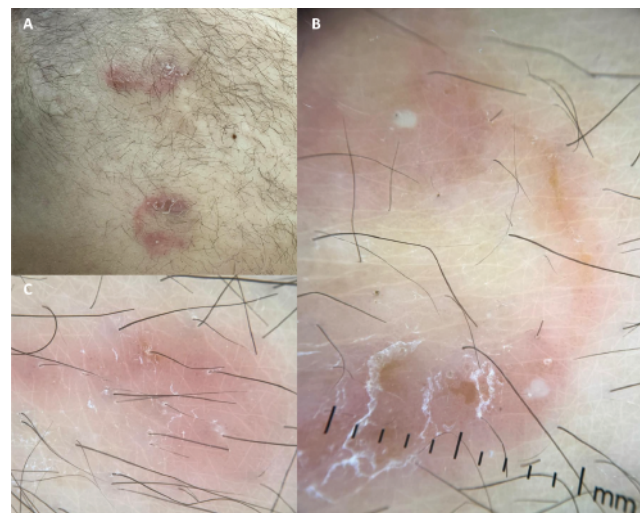
A 35-year-old man came to our attention for a mildly pruritic and serpiginous eruption located in the gluteal region (Figure 2A), developed 20 days after returning from a Caribbean trip. Dermoscopy revealed brownish structureless areas, red dots, white scales, and pustules on an erythematous background (Figure 2B). CLM was diagnosed, and treatment with albendazole 400 mg orally for 3 days was commenced. At the 2-week follow-up, eruption and crusting were non-evolving, although itching and serpiginous tracts were still present. Dermoscopic evaluation highlighted the persistence of the phlogistic reaction, revealing the presence of red dots, a few white scales, and erythema (Figure 2C). Based on the presentation, off-label topical ivermectin 10 mg/g twice daily was introduced. After 3 days of therapy, the patient felt no more symptoms, and after 2 weeks, a complete clinical remission was obtained.



**Figure 1.** A) Clinical appearance before treatment: numerous elevated, serpentine-bizarre erythematous tracts of 10-15 cm in length located on the lumbar region; B) dermoscopic findings before treatment (DermLite;  $\times 10$ ): pink and purple structureless area in a linear, serpiginous, and winding pattern, red dots, yellow and white scales on an erythematous background; C) post-treatment clinical and D) dermoscopic (DermLite;  $\times 10$ ) appearance after 2-week follow-up visit: linear dark red tracts with brownish and yellowish crusts on an erythematous background, with occasional red dots and areas; E) clinical and F) dermoscopic (DermLite;  $\times 10$ ) appearance after 4-week follow-up: post-inflammatory hyperpigmentation (complete remission).

## Discussion

To date, the usefulness of dermoscopy in CLM has not been well established, and only one publication discerns dermoscopic features of CLM both before and after treatment.<sup>5</sup> Although clinical evaluation is still the main diagnostic tool, dermoscopy not only allows a confirmatory criterion, with the observation of larval bodies and empty burrows, but it may also guide the treatment in case of albendazole failure. In fact, when signs of phlogistic reaction persist at dermoscopy (erythema, red dots, whitish/yellowish scales), along with relapsing symptoms, resistance to first-line therapy must be suspected. Oral anti-parasitic agents seem to be more effective than topical treatments (complete remission in 77%-97% of cases);<sup>6</sup> 400 mg albendazole for 3 days or more is considered the treatment of choice, although several other regimens have been reported in the literature.<sup>7,8</sup> However, increased albendazole tolerance is reportedly surging, thus requir-



**Figure 2.** A) Clinical appearance before treatment: erythematous serpiginous tracts on the gluteal region; B) dermoscopic findings before treatment (DermLite;  $\times 10$ ): brownish structureless areas, red dots, white scales, and pustules on an erythematous background; C) post-treatment dermoscopic appearance after 2-week follow-up visit (DermLite;  $\times 10$ ): serpiginous erythematous tracks with red dots and few white scales.

ing after-treatment follow-up to ensure a complete remission from the disease.<sup>9</sup> Furthermore, topical treatment with ivermectin 1% cream appears to be effective as monotherapy and combined medication,<sup>10-13</sup> despite a single case of reported failure.<sup>14</sup>

## Conclusions

In conclusion, our case series highlights the importance of dermoscopic follow-up in the early identification of albendazole failure and the effectiveness of topical ivermectin as a combined medication. Further research with a larger sample size is needed to better understand the influence of dermoscopy on clinical practice for CLM management.

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