

# Acute Serpiginous Rash



A 62-year-old man presented to the dermatology clinic with a severely pruritic and painful rash of 1 week's duration. The rash began as an erythematous papule on the right buttock but had spread in a serpiginous manner to the groin and left buttock. The patient stated that he could see the rash spreading in a serpiginous manner over a matter of hours. The patient's medical history was unremarkable and a review of symptoms was otherwise negative. Physical examination revealed an erythematous serpiginous eruption that was most prominent on the right buttock but extended to the left buttock and down the right leg. He also exhibited several erythematous papules with excoriations in that region.

## What's the diagnosis?

- a. allergic contact dermatitis
- b. arthropod bite eruption
- c. atypical herpes simplex infection
- d. cutaneous larva migrans
- e. fungal infection

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## The Diagnosis: Cutaneous Larva Migrans

Three punch biopsies were obtained. Spongiotic dermatitis with eosinophils was seen. There was a single specimen of tissue that showed a possible intraepidermal larva with a tract in the epidermis. The differential diagnosis included allergic contact dermatitis and arthropod bite eruption, among others, but clinical correlation made cutaneous larva migrans (CLM) the likely diagnosis.

The patient was treated empirically with albendazole 400 mg once daily for 3 days. In addition, he was prescribed triamcinolone for symptomatic relief and remained asymptomatic for 8 weeks at which time he presented again to the dermatology clinic with a similar rash in the same distribution. He was treated with a repeat course of albendazole and further educated on the etiology of the infection. The patient has not exhibited a recurrence after treatment of the second episode of CLM.

Cutaneous larva migrans is a dermatosis of the skin caused by the larvae of parasitic nematodes from the hookworm family, most commonly *Ancylostoma caninum* and *Ancylostoma braziliense*.<sup>1,2</sup> These hookworms thrive in warm moist climates and are most frequently found in tropical coastal regions. They normally inhabit the intestines of animals such as dogs and cats and are transmitted to soil and sand via feces. Humans become accidental hosts through contact with the contaminated sand or soil<sup>3</sup>; however, the larvae are unable to penetrate deeper than the upper dermis of the skin in humans, subsequently limiting the infection. Because humans are accidental hosts, the larvae are unable to complete their life cycle and larval death occurs within weeks to months after the initial infection<sup>3</sup>; thus treatment may be unnecessary unless complications arise.

Cutaneous larva migrans is most commonly observed in travelers or inhabitants of tropical coastal regions but can occur anywhere in the world.<sup>1</sup> Clinically, CLM presents as an enlarging, intensely pruritic, erythematous linear or serpiginous tract,<sup>3</sup> most commonly on the hands, feet, abdomen, and buttocks.<sup>1</sup> Complications may include allergic reactions, secondary bacterial infections, and hookworm folliculitis.<sup>4</sup> Although rare, migration to the intestinal tract<sup>5</sup> and/or hematological spread with Löffler syndrome has been described.<sup>6</sup> Although this dermatological disease has been well described in the medical literature, it is not well recognized

by Western physicians and is consequently either not diagnosed or misdiagnosed, leading to delays in treatment.<sup>4</sup> Although the infection is usually self-limiting without treatment, the risk for prolonged active disease may occur, with 1 reported case lasting up to 18 months.<sup>4,5</sup> The first indicator of CLM is intense pruritus localized to the site of infection.<sup>4</sup> As the larvae migrate or creep, they create a lesion that may appear edematous with vesiculobullous lesions that are either serpiginous or linear.<sup>4</sup> The differential diagnosis may include fungal infection, bacterial infection, and atypical herpes simplex infections; however, the key finding in CLM is the presence of undulating tracts localized to the borders of the lesion.<sup>2</sup> Patients may report experiencing a stinging sensation prior to the formation of the erythematous scaly papule,<sup>5</sup> which is attributed to the initial penetration of the larva into the skin. This development, accompanied with a history of travel to tropical or subtropical regions, should elicit CLM as a likely diagnosis. Because hookworms are a type of helminth, they likely elicit an eosinophilic immune response and thus peripheral eosinophilia may be present.<sup>5</sup>

Effective treatment of CLM is accomplished with oral albendazole 400 mg once daily for 3 to 7 days.<sup>2,7</sup> Alternatively, oral ivermectin, topical thiabendazole, and cryosurgery can be used,<sup>2</sup> though albendazole currently is the preferred treatment of CLM.<sup>7</sup>

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