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Falls in Diagnosis of Cutaneous Larva Migrans—a Case Report from Kosovo

Fatime Kokollari^{1,2}, Antigona Gërçari^{1,2}, Ymrane Blyta^{1,2}, Qëndresë Daka², Afërdita Krasniqi- Daka^{1,2}

¹Department of Dermatovenereology, University Clinical Centre of Kosovo, Prishtina, Kosovo

²Medical School, University of Prishtina, Prishtina, Kosovo

Corresponding author: Fatime Kokollari. Department of Dermatovenereology. University Clinical Centre of Kosovo. 10000 Prishtina, Kosovo. Phone: ++37744258304. E-mail: fatime.kokollari@gmail.com

ABSTRACT

INTRODUCTION: Cutaneous larva migrans (CLM) is a dermatitis caused by hookworm larvae inoculation in the skin, most commonly acquired among individuals in tropical and sub-tropical areas or travelers who have visited those areas. The typical clinical presentation consists of itchy serpiginous lesion that advances. **CASE REPORT:** We are reporting a long time misdiagnosed case of a 37-year-old farmer from continental European region with a typical clinical presentation, and no history of traveling to endemic areas. We made the diagnosis of the CLM based on the patient's history of itchy skin that had advanced for a few months, and clinical characteristics of the lesion in the right gluteus region consisting of erythema, papula and vesicles, together with erythematous/livid serpiginous tracks that formed an irregular and capricious path. The patient was successfully treated with oral mebendazole twice daily for three days and local therapy.

Key words: Cutaneous larva migrans, misdiagnosed, continental region.

1. INTRODUCTION

Cutaneous *larva migrans* (CLM), also known as “creeping eruption”, “sandworm eruption”, “plumber’s itch” or “serpiginous dermatitis” has a world-wide distribution (1), being the most frequent skin infection disease among travelers (2, 3). The zoodermatosis is caused by third-stage larvae parasites of the small intestine of cats, dogs or other mammals; found mostly in tropical and subtropical regions like the Caribbean, South USA, Asia, Australia and Africa (3-5). Commonly found parasites in CLM are *Ancylostoma braziliense* and *Ancylostoma caninum*, followed by *Necator americanus*, *Uncinaria stenocephala*, *Strongyloides stenocephala*, *Ankylostoma ceylonicum*, *Bubostomum phlebotomus*, *Strongyloides stercoralis*, *Dirofilaria spp*, *Spirometra spp* or *Gnathostoma spp* (6-8). Humans become infected when they walk through contaminated areas barefoot or with open-type shoes, or by sitting in tainted soil or sand which is polluted with faeces of host mammals (9, 10). Larvae penetrates through the intact exposed skin surface and migrates through the epidermis several millimeters to a few centimeters per day (11). The incubation period may vary from a few minutes to days or sometimes even weeks (12), whereas the initial manifestation of the cutaneous eruption is variable, leading to an initial incorrect diagnosis in 55% of cases (13).

We report a long-time misdiagnosed case of a 37-year-old farmer from Kosovo, with the objective of demonstrating that disease can be present also among patients in non-endemic continental regions without any history of travel to endemic areas.

2. CASE REPORT

A 37-year-old Caucasian farmer, came to our department with complaints of an itchy skin lesion over the right gluteus region for the past few months. He stated that complaints started after he finished working on the field during summer, and that he did not ask for medical care for a week. Thereafter, he was treated ambulatory by primary care physician for three months but without success. The patient affirmed that the lesion advanced progressively. He denied previous history of skin diseases, trauma or fever. He also denied similar illness among family members. His socio-economic status was of low level. Dermatological examination revealed erythema, papula and vesicles on the right gluteus region, together with erythematous/livid serpiginous tracks (intra-dermal channels) that formed an irregular path (Figure 1). The remainder of his physical examination and laboratory analysis were within normal limits. Based on clinical characteristics of the lesions, the diagnosis of CLM with a severe secondary eczematous reaction was made. Therefore, considering the diagnosis,

the patient was treated with oral antihelminthic agent mebendazole 100 mg twice daily for three days, and liquid nitrogen cryotherapy on progressive end of larvae burrow two times. Because of the severe secondary skin reaction and bacterial infection, treatment with betamethasone cream twice daily and gentamicin cream three times daily for a week were applied locally. Within 48 hours, itching symptoms were decreased and lesions were significantly improved. A complete regression of the manifestations was seen within one week after the initiation of treatment. There were no relapses during the follow-up period of 2 months.

3. DISCUSSION

We considered the publication of this clinical case of interest because the patient from continental European region presented CLM in absence of any history of traveling to endemic areas. Diagnosis was considered based on the clinical characteristics, intense pruritus and history of field work in tough circumstances. Patient response to antihelminthic drug with rapid resolution of lesion confirmed our diagnosis.

In literature, CLM is considered a clinical diagnosis based on clinical history and characteristic serpiginous and migratory lesion of the affected skin area (14). Biopsies are sometimes performed, however it is unusual to see the parasite in biopsy specimens, but occasionally, the larva can be identified within the epidermis (15). Typically, CLM is characterized by erythematous, serpiginous, pruritic, cutaneous eruption (which progress from 2–3 mm to 2–3 cm per day) caused by percutaneous penetration and subsequent migration of the larvae. Clinical picture may be complicated by superimposed bacteri-

al infection due to intense pruritus and scratching. Pain may occur in papulovesicular lesions, whereas systemic signs as peripheral eosinophilia, migratory pulmonary infiltrates, and increased immunoglobulin E levels are rarely seen (16). Lesions are usually observed on areas which are in wider contact with the ground like: feet, legs, gluteal regions, abdomen and hands, but they can occur on any area of the body which has direct contact with contaminated and wet soil. Uncommon clinical presentations: hair follicle inflammation known as “hookworm folliculitis” most frequently in the gluteal region; diffuse multifocal papulo-vesicular eruption localized mainly on the chest, back and abdomen; and migrating urticaria are seen sometimes (3). Differential diagnosis includes: scabies, erythema chronicum migrans, larva currens, epidermal dermatophyte infection and phytophotodermatitis (6, 11). CLM usually heals spontaneously within weeks or months, as the larvae are unable to complete their life cycle in humans and die (15, 17). However, treatment is mandatory because of the potential complications, pruritus and the duration of the disease (17). Depending on the number of lesions and their localization, the treatment can be topical or systemic. Currently, the drugs of choice are: albendazole 400mg/day for 3 days; ivermectin 200mcg/kg in a single dose; or tiabendazole 25mg/kg/day, divided into two doses for 5 days in case of multiple and complicated lesions. Topical antihelminthics are applied sometimes, mainly because of their advantage in the absence of systemic side effects (17–19). Oral antihistamines and topical corticosteroids are indicated to relieve pruritus, and antibiotics in case of secondary infection. Nowadays, cryotherapy with carbon dioxide or liquid nitrogen are used only in exceptional cases (17, 20).

4. CONCLUSION

Our case serves as a reminder for primary care physicians that the lack of travel abroad should not preclude the diagnosis of CLM and should be kept in mind in differential diagnosis of any creeping lesion even in non-endemic countries.

CONFLICTS OF INTEREST: NONE DECLARED.

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Figure 1. Dermatological examination showed typical erythematous/livid serpiginous tracks, erythema, papula and vesicles on the right gluteus region.

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