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ORIGINAL ARTICLE

Autochthonous Cutaneous Larva Migrans Infection in Guipúzcoa[☆]



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KEYWORDS

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Abstract

Introduction: Cutaneous larva migrans (LM) infection forms a serpiginous eruption caused by the migration of nematode helminths through the epidermis. The parasites are acquired when the skin comes into contact with soil contaminated by the feces of infected animals. Until now, infections have been believed to be imported from tropical and subtropical regions. Our aim was to study cases of cutaneous LM diagnosed in residents of the Spanish province of Guipúzcoa who had not recently traveled to such regions.

Material and methods: Cross-sectional observational study of LM cases diagnosed in Hospital Universitario Donostia from 2011 to 2015 in patients who had not visited a region where this nematode infection is endemic. Clinical diagnoses were based on characteristic lesions. We studied the following variables: age, sex, site of lesions, date of onset of symptoms, possible source of contagion, pathologic findings, treatment, and clinical course.

Results: We found 4 cases, all in men (mean age, 60 years). Lesions were on the lower extremities in 3 patients and on the trunk in 1 patient. All had been in contact with soil that could have been contaminated by feces and was the most likely source of the parasite. The lesions disappeared after treatment with oral albendazole.

Conclusions: The appearance of cases of autochthonous LM in Europe requires investigation of the culprit species, a review of the epidemiology of this infection, which was once considered imported, and the planning of public health measures to prevent it from becoming endemic.

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PALABRAS CLAVE

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España;
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Larva migrans cutánea de origen autóctono en Guipúzcoa**Resumen**

Introducción: Larva migrans cutánea (LM) es una erupción serpiginosa causada por helmintos nematodos que circulan por la epidermis. Se adquiere cuando la piel entra en contacto con tierra contaminada por heces de animales infestados por estos nematodos. Hasta ahora se consideraba como enfermedad importada de zonas tropicales y subtropicales. El objetivo fue estudiar los casos de LM diagnosticados como autóctonos por no haber salido de la provincia de Guipúzcoa recientemente.

Material y métodos: Estudio observacional transversal retrospectivo de los casos diagnosticados de LM en el Hospital Universitario Donostia de 2011 a 2015, sin viaje previo a ninguna zona endémica de este cuadro. El diagnóstico fue clínico ante las lesiones características. Las variables estudiadas fueron: edad, género, localización de las lesiones, fecha de inicio de los síntomas, posible fuente de contagio, datos anatómo-patológicos, tratamiento y evolución.

Resultados: Se han recogido 4 casos, todos varones, con una media de edad de 60 años. Tres casos presentaron lesiones en las extremidades inferiores, mientras que uno lo hizo en el tronco. Todos nuestros pacientes habían estado en contacto con tierra que pudiera estar contaminada por heces, siendo este el mecanismo de transmisión más probable. Se instauró tratamiento con albendazol oral, con resolución de las lesiones.

Conclusiones: La aparición de nuevos casos de LM de origen autóctono en Europa obliga al estudio de la/s especie/s causal/es, a una revisión epidemiológica de esta infestación y a planificar qué medidas se deberían tomar para evitar que una enfermedad considerada hasta ahora como importada, se convierta en autóctona.

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Introduction

The term cutaneous larva migrans (LM) refers to an erythematous pruritic rash of serpiginous morphology that advances in the direction of one of its ends. It is caused by the migration of helminth nematode larvae through the epidermis,^{1,2} and is the most commonly imported disease of tropical origin.^{3,4} The diagnosis is clinical, based on observation of the characteristic skin lesions. Pathology study is unnecessary for its diagnosis; when biopsy is performed, it must be taken into account that the larva is found 1 to 2 cm in front of the advancing end of the serpiginous lesion, making parasitic structures unlikely to be found in the sample.²

There are numerous species of nematodes that can cause this infestation; the main one that affects humans is *Ancylostoma braziliense*.⁵ The majority of these species are found in regions with a hot climate and, in Spain, this is therefore an imported disease.

The adult forms of the species that cause LM colonize the digestive tract of cats and dogs, from where their eggs are excreted in the feces.⁶ These animals are the definitive hosts,² as the larva can complete its life cycle in them. Under optimal environmental conditions of temperature and humidity,⁷ eggs excreted in the feces hatch to release larvae that mature until they reach the filariform (infective) stage. On reaching this phase, the larvae can penetrate the skin to infect a new animal and thus complete their life cycle, or else they can enter the skin of a human being. On penetration, the larva provokes the appearance of a small, pruritic erythematous papule or vesicle, and opens a path through the epidermis, advancing at a rate of approximately 2 to 3 cm a day¹; this is the cause of the characteristic lesions, which are serpiginous, erythematous, and intensely

pruritic. Several serpiginous tracts can often be seen simultaneously in a single patient.⁸ As the larvae advance, the initial section of the lesion becomes dry and crusted. Lack of the enzyme necessary to cross the basement membrane of human skin (collagenase)⁹ means that the larvae cannot reach the blood or lymph vessels, and they therefore migrate through the epidermis for an indeterminate time until they die without being able to complete their life cycle. Even so, a case of visceral LM due to *Ancylostoma caninum* has been published.¹⁰

The clinical course is towards spontaneous resolution of the lesions over a period of 1 to 2 months due to the immune response that is triggered.² Cases of lesions that have persisted for 2 years have been reported.¹¹ Possible complications, such as bacterial superinfection and allergic reactions, and the intense pruritus make treatment recommendable.

The objective of this study was to review cases of LM with no epidemiologic history of recent travel to endemic regions; it thus refers only to autochthonous cases.

Material and Methods

This was a retrospective observational study of patients diagnosed with LM in the dermatology department of Hospital Universitario Donostia between August 2011 and June 2015. All patients lived in Gipuzkoa, Spain, and had no history of recent travel outside this province.

Variables analyzed included age, sex, date of onset of the condition, nature of possible contact with soil contaminated by larvae, site of the lesions on the body, findings on biopsy (if performed), and climatic conditions during the previous months that could have favored the onset of the disease.

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