Case Report

Leishmaniasis recidivans in Ethiopia: cutaneous and mucocutaneous features

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Abstract

Cutaneous leishmaniasis (CL) is endemic in Ethiopia. An unusual clinical form of this disease is leishmaniasis recidivans (LR), a prolonged, relapsing form of cutaneous leishmaniasis resembling tuberculosis of the skin that may persist for many years with a chronic and relapsing course. This rare variant has been shown to be caused by Leishmania tropica species in the Old World and by Leishmania braziliensis, Leishmania amazonensis, Leishmania panamensis, and Leishmania guyanensis in the New World, as reported in various studies. To our knowledge, there are no reports from Ethiopia, and mucocutaneous involvement of LR has not been described to date. This was a retrospective analysis of the patients seen at the Italian Dermatological Center in Mekelle on the Tigrean highlands over a three-year period (2008–2011). Seven patients with typical clinical features of LR were seen. Two of them presented with signs of mucosal involvement. To date, Leishmania aethiopica is shown to be the only species causing CL that is endemic in the Ethiopian highlands. Therefore, it had to be assumed that the lesions in these patients were caused by this species. The aims of this communication are to report, for the first time, the presence of LR, most likely due to Leishmania aethiopica, in Ethiopia, and to report mucosal involvement in this rare clinical form of CL.

Key words: cutaneous leishmaniasis; developing countries; parasitic infections.


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Introduction

Cutaneous leishmaniasis (CL) is a disease caused by several different species of the protozoa Leishmania that are transmitted via the bite of an infected female sand-fly. CL is an endemic disease in Ethiopia, particularly in the Tigrean highlands at an altitude > 2,000 meters [1-3].

The disease has a wide clinical spectrum [4,5]. The different clinical presentations depend mostly on the host immune response rather than on the causative species. However, there are some expressions that are more prevalent in one species than in another [6,7]. Unusual clinical variants of CL include mucocutaneous leishmaniasis (MCL), diffuse cutaneous leishmaniasis (DCL), and leishmaniasis recidivans (LR). LR is rare and usually follows a chronic and relapsing course. It recurs typically at the site of an original lesion that had apparently healed after a variable period (months or years) and often within the edge of the scar [8,9]. The recurrent lesions may be notoriously difficult to treat, thus the name chronic relapsing cutaneous leishmaniasis. Clinically, the cutaneous lesions are in the form of plaques simulating discoid lupus erythematosus and lupus vulgaris. One case simulating granulomatous cheilitis has also been reported [10].

LR was described as a clinical variant of CL caused by Leishmania tropica in the Old World [8,11]. It is also known as leishmaniasis recidiva cutis (LRC) in the New World. Few patients have been reported from the New World; L. braziliensis subspecies, L. amazonensis, L. panamensis, and L. guyanensis have been isolated from patients in Brazil, Colombia, and Guyana [12-15].

To our knowledge, there have been no reports of LR from Ethiopia, and mucosal involvement in this presentation has not yet been described.

Here we report the presence of LR in Ethiopia, where L. aethiopica is to date still the only species found in the highlands causing CL [16-20], and describe the mucosal involvement in this uncommon clinical variant.
Case series

Seven patients presenting with the typical features of LR were evaluated at the Italian Dermatological Center (IDC) in Mekelle over a three-year period (2008 to 2011).

Six of them were children 4 to 17 years of age and one was an adult 40 years of age. All the patients were in good general health without other diseases or any other signs of other types of CL.

All patients had already been treated at least once for previous CL. All the lesions were located on the face (head). No lesions were found on the body on further clinical examination. This ruled out a possible relapse of DCL, another uncommon clinical variant, which is also found in northern Ethiopia [21].

The lesions were located on the edge of the previous scars in four patients; inside the edges on the scar in one patient; on and inside the edges in another patient; and on and inside and outside the edges in the last patient. Clinical presentation was similar to discoid lupus erythematosus in three cases and to lupus vulgaris in one case. Skin smears were obtained from the lesions and stained with Giemsa, and Leishmania amastigotes were found in samples from all patients. Multiple samples were sometimes needed because of the scarcity of parasites present in the skin smears from the lesions [22].

Two patients showed mucosal involvement of the lesions. Their clinical features are described below.

Patient 1

A 16-year-old boy presented with significant scarring on the nose, forehead, cheeks, and upper lip (Figures 1 and 2).

Infiltrated and crusted lesions were visible at the margins of the scar and inside the scar. The patient had previously been treated several times for CL; the first lesions had appeared five years earlier. The last treatment was given two years before with intramuscular meglumine antimoniate (Glucantime, Sanofi, Famar Health Care Services Madrid, Spain) with apparent complete remission. His general health was unremarkable; blood routine tests were within the normal range, and an HIV test was negative.

Lesions continued to increase in size, now affecting the nostrils and the right side of the upper lip (active...
lesions were present on the semimucosa). These features pointed to possible oral and/or nasal mucosal involvement, probably secondary to the increasing size of the lesions over time.

The patient was treated with systemic meglumine antimoniate, the only therapy available, resulting in an apparent complete remission of the lesions. The patient was seen twice in two years with relapse and was not seen thereafter.

**Patient 2**

A 17-year-old boy in good general health presented at the hospital with scars of previously treated CL lesions on the face (Figure 3). New active lesions had appeared on his cheeks, nose and nostrils, lips, right upper eyelid, and on his right ear. The lesions were infiltrated, crusted, and ulcerated. They were located on and inside the margins of the scars and a few of them were even outside these margins, on the normal skin. The oral mucosae were clearly affected, with ulcerations on and inside the lips in the oral mucosae and inside both nostrils in the nasal mucosae.

Taking his history was difficult. Therefore, the precise duration of the disease could not be determined, although it may have persisted for many years. An HIV test was performed and the result was negative.

These clinical features possibly indicated a mucosal involvement secondary to the increasing size of the previous lesions over time. It was less likely that the lesions had already spread to the mucosae since the first appearance.

This patient too was treated with systemic meglumine antimoniate, resulting in an apparent healing of the active lesions. This presentation resulted in deforming scars after the therapy, with narrowing and impairment of the mouth opening.

The patient was not seen again for follow-up.

**Discussion**

LR is an uncommon clinical presentation of CL that occurs in 3%–10% of patients [23,24].

Lesions of LR most likely represent a reactivation of an initial infection, probably due to the persistence of parasites in the scarred tissue [15].

The actual cause of re-activation of the disease is unclear. Reports indicate that local trauma, surgery, or corticosteroids may contribute in the reactivation of leishmaniasis [8,12,25]. The most common mechanism of re-activation hypothesized is a defect in the cellular immunity of the host. A defect in the T-lymphocyte activation by the protozoa would cause the inability of the macrophages to kill all amastigotes [24,9]. Relapses may occur after months or up to 30–40 years after the first manifestations of the disease, but more commonly within 2 years [8,11,26].

Few cases of LR, caused mainly by *L. tropica* in the Old World and by *L. braziliensis* and other species in the New World, have been reported previously [11,14,15,23,27,28]. These lesions may have variable clinical appearance. Differential diagnoses include lupus vulgaris, discoid lupus, bacterial infections, squamous cell carcinoma, and, when the lesions are found on the lips, syphilitic chancre and granulomatous cheilitis [9,10,23]. The disease follows a chronic and relapsing course. The treatment of LR is notoriously difficult. According to the literature, it includes systemic therapy with pentavalent antimony, alone or in combination with allopurinol or pentoxifylline [26], amphotericin B, and local therapy with intralesional antimonials, cryosurgery, or excision. In children, fluconazole may represent an effective and well-tolerated therapy [29,30], although we think that for *L. aethiopica*, pentamidine, which is hardly available in the country, is the treatment of choice [31].

To our knowledge, no cases of LR have yet been reported from Ethiopia, where CL is an endemic disease. Our patients all came from the Ethiopian highlands around Mekelle. It has been demonstrated that CL on the Ethiopian highlands (> 2,000 meters) is caused by *L. aethiopica*, which was the only species
isolated from patients living in the highlands of different regions including Tigray in several studies [16-21].

Therefore, although we unfortunately did not have the facilities to identify the species, it seems highly likely that the cases reported here were caused by \textit{L. aethiopica}. To our knowledge, this species has not yet been reported as a possible cause of LR.

We also reported here the possible mucosal involvement in this rare form of CL, which has not been described elsewhere. The mucosal lesions in our patients were probably due to the progression of the previous lesions, leading to increased size over time.

Conclusions

Leishmaniasis recidivans is seen in northern Ethiopia, and it is most likely caused by the most common causative species, \textit{L. aethiopica}. Mucosal involvement of this rare clinical presentation has been described. Further studies are imperative to confirm the possible mucosal involvement of this clinical form of CL and to confirm the causative species.

References


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