Pseudo-Lepromatous Leishmaniasis due to L. Major Revealed by an Immune Reconstitution Inflammatory Syndrome, Induced by Antiretroviral Treatment in an HIV-Positive Patient

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Abstract

The spectrum of pathogens associated with an immune reconstitution inflammatory syndrome (IRIS) continues to grow with the access to antiretroviral drugs. Among the parasitosis associated with this phenomenon, only about twenty cases of leishmaniasis, mainly visceral forms, have been reported. Pseudo-lepromatous leishmaniasis is a rare variant, described most often in hematologic malignancies and immunocompromised patients resulting from a specific energy to leishmaniasis antigens. We report the first case in Africa of an IRIS revealing a pseudo-lepromatous leishmaniasis due to L. major, in a 25-year-old HIV-positive patient, 6 weeks after antiretroviral therapy (ART) initiation. The attention of practitioners is drawn to the difficulty of the diagnosis and treatment of this severe form of leishmaniasis probably emerging with the access to ART in endemic foci.

Keywords: Cutaneous leishmaniasis, Leishmania major, Immune reconstitution inflammatory syndrome.

Introduction

The immune reconstitution inflammatory syndrome (IRIS) refers to all pathological inflammatory manifestations resulting from restored immunity to specific infectious or non-infectious agents [1]. The spectrum of pathogens associated with this phenomenon continues to increase, however, with a clear prevalence of infections with mycobacteria, Cryptococcus neoformans and herpes viridae species [2, 3].

To date, only about 20 cases of leishmaniasis have been reported during the IRIS, mainly visceral and post-kala-azar forms [4, 5, 6].

To our knowledge, only 5 cases of cutaneous leishmaniasis have been reported during the IRIS: 4 cases of diffuse cutaneous leishmaniasis due to new world species (L. braziliensis) and one case of sporotrichoid form (L. major) in an African patient [2, 7, 8, 9]. We report the case of a pseudo-lepromatous leishmaniasis due to L. major, which was revealed by an IRIS in an HIV-positive patient after initiation of an art therapy.

Observation

In September 2010, a 25-year-old woman from the central region of Senegal without any past medical history was admitted for prurigo lesions associated with deterioration of the general status and oral candidiasis. HIV infection was diagnosed with CD4 + count at 114 / mm³, CD8 + at 1821 / mm³, CD3 + at 2151, (CD4 / CD8: 0.06).

At the beginning of November 2010, an antiretroviral treatment combining combivir with nevirapine was started, with both a good compliance and tolerance. After 42 days or 6 weeks after initiation of treatment, she presented non-pruritic papulo-nodular lesions, progressively extending to the whole body (face, trunk, limbs), associated with epistaxis, dysphonia and nasal obstruction (Fig. 1).

The physical examination has demonstrated copper-colored papulo-nodular lesions with a
necrotic center, sometimes confluencing into infiltrated plaques (Fig. 2). Even though the lesions were widespread, they frankly predominated on the face that was infiltrated, affecting the ear and thus giving a leonine appearance. Palmo-plantar regions also present umblicated papulo-nodules (Fig. 3).

Erosions of oral and nasal mucous membranes covered with crusts were observed. There were no neurological disorders, splenomegaly or peripheral lymphadenopathy. The CD4 + count was 244 / mm3 and CD8 + 1127 / mm3 (CD4 / CD8: 0.22). HTLV, hepatitis B and syphilitic serologies were negative.

Figure 1: Infiltrated papulo-nodules with leonine aspect of the face and nasal involvement

Figure 2: Pseudo-umbilicated aspect of the lesions

Figure 3: Earlobe and palmar involvements
The bacteriological examination of slit-skin smear in search of Hansen's bacillus was negative. Parasitological examination of the smears performed on the skin lesions and the nasal ulcerations revealed leish mania bodies. Histopathological examination of the skin showed a polymorphic granuloma with multiple leishmania bodies within the macrophages (Fig 4). PCR (Polymerase Chain Reaction) study identified the L. major species. The medullogram was normal except for the presence of a reactive plasmocytosis. After two courses of treatment with intramuscular N-methylglucamine (Glucantime®) at 20mg/Kg/day for 15 consecutive days, a clinical and parasitological healing of the leishmaniasis was noted (Fig 5). The patient is still followed for her HIV infection.

**Figure 4**: Granulomatous in filtrate with numerous leishmania bodies with in macrophages (Hematoxylin and Eosinstain x 40)

**Figure 5**: Regression of lesions after treatment

**Discussion**

Our patient coming from an endemic region presents a pseudo-lepromatous leishmaniasisas evidenced by both the parasitological and histopathological results and especially by their sponsiveness to antileshmanial drugs. Leishmaniasis was, in our patient, the manifestation of an IRIS.

Indeed, its occurrence 6 weeks after the ART initiation in a known HIV-positive patient, concomitantly to significant increase of CD4 + count to twice the nadir, fulfills the criteria of the IRIS [10]. The viral load has not been determined in our patient according to the national HIV program recommendations in our country.

IRIS is a term used to describe both situations that may occur in HIV patients during the restoration of the immunity after ART's initiation: the revealing IRIS during which an subclinical infectious or neoplastic disease becomes clinically apparent at the time of immunity restoration and the paradoxical IRIS causing a clinical worsening of a preexisting known or partially treated condition [1].

Our patient originally from an endemic area probably had a latent leishmaniasis. It was unmasked after the immune state improvement through the increase of the CD4 + counts secondary to ART.
Despite the increasing number of pathogens associated with this syndrome, mycobacterium, cryptococcus and herpes virus infections are the most reported [2, 3]. Only about 20 cases of leishmaniasis, mostly visceral forms, have been reported during the IRIS [4]. Three clinical variants of cutaneous leishmaniasis associated with immune reconstitution due to ART have been described [1].

These include diffuse cutaneous leishmaniasis, post-kala-azar leishmaniasis and sporotrichoid subcutaneous nodular leishmaniasis. The diffuse cutaneous form was reported only in 4 patients [2, 7, 8]. All of them were from Latin America, leishmaniasis being due to new world species (L braziliensis, chagasi, guyanensis).

In all cases, it was a paradoxical IRIS occurring within 1 to 6 months in patients with known leishmaniasis. The clinical presentation included plaques and papulonodules most often ulcerated and frequent mucosal involvement. To our knowledge, we report the first case of pseudo-lepromatous cutaneous leishmaniasis due to L. major associated with an IRIS of the old world. The clinical presentation in our patient was particular by the necrotic and pseudoumbilicated aspect of the lesions and the palmo-plantar involvement. Also, mucosal involvement remains exceptional during L. major infections.

This rare clinical presentation raisesa diagnostic problem due to the multiplicity of potential opportunistic infections that might occur in immunocompromised patients. Indeed, the presence of infiltrated plaques evoked the diagnosis of lepromatous leprosy, a diagnosis which have been eliminated in the absence of neurological disorders and the negativity of bacteriological examination. Secondary syphilis has been evoked and eliminated on the negativity of serological tests. The histology ruled out diagnosis of African histoplasmosis, sarcoidosis and cutaneous lymphoma.

Pseudo-lepromatous leishmaniasis has been described most frequently in hematological malignancies and immunocompromised patients with low CD4 cell counts. It attests of a specific Energy to leishmaniasisantigens with a high parasitic load and a chronic course with frequent relapses [11, 12, 13, 14]. Its exceptional occurrence during IRIS explains the lack of consensus on both its pathogenesis and its treatment [8]. Nevertheless, it is the most severe of tegumentary leishmaniasis and requires several treatment courses [9].

Conclusion

We reported the first case of pseudo-lepromatous leishmaniasis during an ISIS in Africa. This is the first case where L. major species is the causative agent.

The attention of practitioners is drawn to the difficulty of diagnosis and treatment of this severe form of leishmaniasis probably emerging with access to ART in endemic regions.

References


