Polyarthritis caused by Leishmania in a patient with human immunodeficiency virus

Sirs,

Visceral leishmaniasis is the third most frequent opportunistic infection in patients infected by HIV in Spain and Portugal (1). We present a case of disseminated visceral Leishmaniasis with articular involvement in a patient with HIVinfection.

A 43-year-old HIV-positive man with a history of intravenous drug use complained of having over the last 18 months joint pains and stiffness in his hands, knees and legs without fever. Visceral leishmaniais affecting his liver, spleen, lymphatic nodes, skin and lung had been diagnosed in 1990 and treated with meglumine antimoniate, amphotericin B and liposomal amphotericin B with partial response. He was under treatment with Saquinavir, Ritonavir, Stavudine, Lamivudine and Cotrimoxazole.

Clinical examination revealed that his metacarpophalangeal, wrist, elbow and knee joints were painful and slightly swollen and he had hepatosplenomegaly. Complementary examinations highlighted: WBC count 2600/mm^3; hemoglobin 11.6 g/dl; platelets 100,000/mm^3; ESR 83 mm/1 h, uric acid 14.8 mg/dl; CD4 lymphocyte count 91 cells/ml and viral load < 50 copies/ml. Rheumatoid factor, antinuclear antibodies and cryoglobulins were negative. A serologic test for Leishmania by indirect immunofluorescence was 1/320. Arthrocentesis of the knee yielded a clear synovial fluid with 3,500 cells/µl with 50% lymphocytes and 50% histiocytes with intracytoplasmic formations identified as Leishmania (Fig. 1). The biochemistry of the synovial fluid had 74 mg/dl glucose and 4.8 g/dl proteins. Polarized light microscopy did not reveal crystals. Ziehl-Neelsen and Gram tinction, culture for bacteria and culture using Lowenstein and Novy-MacNeal-Nicolle (NNN) medium were negative. An X-ray of the joints was normal. Bone scintigraphy showed light increased uptake in both knees. A bone marrow biopsy demonstrated intense leishmania parasitization. Treatment with meglumide antimoniate and liposomal amphotericin B was reinitiated but the patient died of sepsis a few days later.

The spectrum of musculoskeletal infections described in HIV-positive patients encompasses septic arthritis, osteomielitis, septic bursitis and pyomiositis. Septic arthritis was the most commonly reported infection. *Staphylococus aureus* was the most commonly isolated agent followed by atypical mycobacterial species and candida (2-4). The parasitic etiology is exceptional and only one description of arthritis caused by Leishmania has been reported in a male with a history of intravenous drug use and a CD4 lymphocyte count of 28 cells/ml, who presented subacute symmetrical polyarthritis affecting his wrists and ankles; leishmania was identified in two smears of synovial fluid (5).

The majority of these cases leishmaniasis appears in the advanced stages of the disease (CD4 lymphocytes < 200 cells/mm^3 in 77 – 90% of patients) (6). Profound cellular immunosuppression and lack of macrophage activation explain its characteristics: extensive dissemination of the disease, frequent relapses and a progressive course, although the actual cause of death is usually some other factor (6-8).

The clinical manifestations of visceral leishmaniasis in these patients do not differ significantly from those observed in immunocompetent individuals (8). However, in a study conducted in France in 1998 it was observed that these manifestations may be influenced by the patient's immunological status; thus atypical localizations (digestive tract, skin, lungs and tonsils) are more frequently observed in gravely immunodepressed patients, while the typical features of fever, hepatosplenomegaly, cytopenias and hypergammaglobulinemia are less common (7).

Our patient presented with a chronic symmetrical polyartritis which was, contrary to the previous case, a late manifestation of the parasitic infection. The synovial fluid had few cells with lymphocytes predominating. The cytology of the synovial fluid showed abundant histiocytes with intense intracytoplasmic leishmanias, which ruled out reactive arthritis. The response to treatment could not be evaluated due to the patient's death. The slight inflammatory reaction of the synovial fluid might explain the latent clinical course of the articular manifestations.

Our case represents the first detailed description of the characteristics of arthritis due to leishmania and we conclude that articular leishmaniasis should be considered among the causes of polyarthritis in patients with HIVinfection.

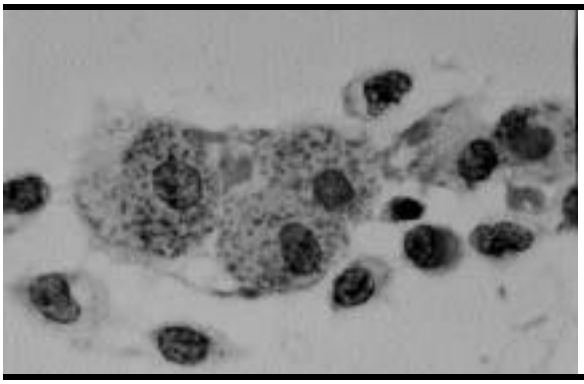

Fig. 1. Synovial fluid showing histiocytes containing intracytoplasmic amastigotes of Leishmania.

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