TROPICAL DERMATOLOGY

DIAGNOSIS AND IDENTIFICATION BY PCR-RFLP OF LEISHMANIA SPECIES ISOLATED FROM PATIENTS WITH CUTANEOUS LEISHMANIASIS IN VENEZUELA

Andreina Armand Mijares [(1)] - P Soto Toledo [(2)] - N Rodríguez Castañeda [(1)]

Institute Of Biomedicine "dr. Jacinto Convit", Central University Of Venezuela, Dermatology, Caracas, Venezuela [(1)] - Derma Láser, Dermatology, Santa Cruz De La Sierra, Bolivia [(2)]

Introduction: Leishmaniasis is one of the six major tropical diseases worldwide, with specie-related clinical and epidemiological pleomorphism. Leishmania species identification is important because it can help to find the best treatment option according with clinical and epidemiological antecedents. Polymerase Chain Reaction (PCR) followed by Restriction Fragment Length Polymorphism (RFLP) allows the identification and characterization of species.

Objective: The objective of the present study was to characterize Leishmania species and their genetic variability in biopsies of patients with localized cutaneous leishmaniasis, implementing molecular PCR-RFLP technique.

Materials and Methods: We conducted a prospective, descriptive and experimental study; we enrolled patients who attended to leishmaniasis service at Biomedicine's Institute from May to November 2009. Included 53 patients, who signed an informed consent including the authorization for clinical pictures. Montenegro skin reaction, scarification smears, skin biopsy culture, PCR and PCR-RFLP were performed in all patients.

Results: 38/53 (72%) had positive PCR for Leishmania spp, 76% of them (29/38) for L. (V.) braziliensis complex and 9/38 (24%) for L. (L.) mexicana complex. 21% had genetic variability for L. (V.) braziliensis complex.

Conclusion: The results suggest that the genetic variability found could be related to a natural resistance to treatment or a more aggressive behavior, observing shorter evolution times, a combination therapy requirement and prolonged healing times. Additional studies with larger samples would be necessary to establish if the variability of clinical manifestations and therapeutic response were or not associated with genetic variability. In conclusion, the combination of molecular techniques is useful for the diagnosis of disease and the species identification and intra-specie genetic variations. Taken together, molecular techniques helps to better treatment orientation, adequate follow-up and control activities in

endemic areas for a better understanding of the epidemiological behavior of this disease.

Key words: Leishmania, Localized Cutaneous Leishmaniasis, Polymerase Chain Reaction, Restriction Fragment Length Polymorphism.