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Immune response in patients with cutaneous lesions caused by *L. donovani* senso lato in Lebanon

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To date, no study of the immune responses in cutaneous leishmaniasis caused by *L. donovani* senso lato has been done. The restriction of a virulent parasite to the skin, instead of it causing, as expected, a systemic infestation, presents a special situation where the body defenses seem to be particularly activated, limiting the invasiveness of this organism. Revealing which form of the immune response is induced in these cases, and the activation level such a response reaches, may lead us, by determining and manipulating the factors under play here, to full resistance! In the current study, we aim at defining of the two arms of the immune system, of which is induced? Is it the humoral and/or the cell mediated one? Which one led to limiting invasiveness? For assessing the magnitude of the humoral response we used micro-ELISA with as antigen a lysate of an *L. donovani* isolate (IPTI) and a recombinant copy coded by K39 gene of a Leishmania chagasi isolate; as for the Montenegro reaction, one of our isolates was the source of antigen. Serologic tests were carried out on all patients. They revealed anti *L. donovani* antibodies in 50% of patients. Montenegro skin test was negative in all patients. Using southern blot genomic DNA, all the isolates exhibited similar restriction fragment patterns and hybridization intensities with probes of the K39 gene. The lack of response in the patients who were negative in either one of the responses (or in both) may be due to either the concealment of the organisms inside macrophages and thus is delivered in circulation and to different organs in very small numbers hence inducing tolerance rather than an immune response as happens in situations where we desensitize a subject, an established technique, whereby T lymphocytes become tolerant to a specific antigen. This may explain lack of clinical symptoms and signs in cases with sub-clinical infections also referred to as carriers. But before ending, and very importantly it is pertinent to note that this proves that both anti-parasite antibody levels and skin testing, sometimes, have no value clinically in diagnosing leishmaniasis! Effectively histology of any tissue with a lymphatic component should lead to demonstrating the parasites, an easy, dependable and reliable diagnostic procedure.

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