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Tegumentary human leishmaniasis modulates humoral and cellular immunity

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In the present observational prospective study, we analyzed the epidemiological and immunological profiles of patients with tegumentary leishmaniasis attending Hospital guards of Calabria, the southernmost region of Italy, aiming to gain public health data on the diffusion of leishmaniasis and suggest novel markers of such pathology. A group of 27 cases of suspected cutaneous or muco-cutaneous leishmaniasis were enrolled. Among them 8 were microbiologically Leish-negative and a group of 11 healthy volunteers (negative controls) were also included. Biopsies and blood samples were carried out for blood analysis, lymphocyte subpopulations, immunological and inflammatory markers, Leishmania real-time PCR and serological tests. A biochip array technology was used for quantization of cytokines. In coastal areas around the Calabrian town of Locri were recorded 19 cases of this infection in the last 12 years (1.58 cases/ year). Average age of our patients was 51 years. Microscopic examination highlighted the presence of amastigotes within macrophage cytoplasm, in Leishmania-positive patients. In these patients, levels of total IgG, IgG1, IL-4, IL-10, MCP-1, CD4 and CD25+ were significantly higher than in controls; on the contrary a reduction in levels of TNFα, VEGF and EGF were found. Instead levels of INFγ, IL-6, IL-8, CD8+, CD20+ and CD56+ did not show any substantial difference among samples obtained from the three studied groups. Presented data spread a light on relevant number of epidemiological issues of tegumentary leishmaniasis in the small area studied. The considerable panel of studied analytes may be exploited as diagnostic and prognostic markers of such protozoal disease.

Biography

Giovanni Matera obtained his MD at University of Messina, Italy, in 1982 and PhD in Microbiology in 1987. He is a Specialist in Infectious Diseases. He is a Post-doctoral Fellow at the Medical University of South Carolina, Charleston, USA. From 1986 to 1988, he worked as a Research Associate at the Dept. of Microbiology, University of Saskatchewan, Canada. He was an Instructor from 1990 to 2000 at the Chair of Microbiology, University of Catanzaro. From 2000 to 2006, he worked as an Assistant Professor and since 2006 Associate Professor of Microbiology and Clinical Microbiology at the same University. His main lines of research are biological effects of bacterial endotoxins, physiopathology of sepsis and markers of systemic infections and endocarditis, the mechanisms of antibacterial drugs, laboratory diagnosis of infectious diseases and clinical parasitology. He is an author of over 80 articles published in reputed international journals of microbiology and infectious diseases.

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