CHARACTERIZATION OF THE CELLULAR IMMUNE RESPONSE TO INFECTION BY *LEISHMANIA (VIANNIA) BRAZILIENSIS* IN THE PRESENCE OF GENETIC VARIANTS IN THE IL-17 GENE

Paiva-Cavalcanti, M.; Gonçalves-de-Albuquerque, S. C.; Dias, B. C.; Oliveira, C. N. C.; Brito, M. E. F.; Pereira, V. R. A.; Brandão-Filho, S. P.

Aggeu Magalhães Research Center, Oswaldo Cruz Foundation, Department of Immunology, Recife-PE, Brazil

Cutaneous leishmaniasis (CL) caused by *L. (V.) braziliensis* infection often shows expansive and persistent skin lesions. The T cells are crucial in the immune response and can lead to spontaneous cure or persistence of infection and disease. Th17 cells have shown to have great influence on the development of resistance or susceptibility. However some questions about the functions of Th17 cells are still not fully understood. Genetic studies have reported associations between polymorphisms in cytokine genes and susceptibility to many infectious diseases. The SNP -197 G/A is located in the promoter region of the IL-17 gene, influencing the regulation of its expression, and has been associated with increased susceptibility to inflammatory diseases. This study aims to characterize the immune response to infection by *L. (V.) braziliensis* in the presence of the polymorphism -197 G/A and its association with resistance or susceptibility to CL. A total of 77 samples of patients living in endemic areas of Pernambuco State northeastern region of Brazil were used. The diagnosis is being carried out by the Montenegro Skin Test and quantitative Real Time PCR. The patients were included into the following groups: symptomatic case (SC), asymptomatic case (AC) and control (CTL). For the specific detection of alleles, PCR-RFLP and sequencing were used. For the immune response, analysis by qPCR for Th1, Th2 and Th17 profiles will be performed. The following results were obtained for groups SC (n=17), AA: 11.71%, AG: 53% and GG: 35.29%; AC (n=12), AA: 16.67%, AG: 33.33% and GG: 50%; CTL (n= 48), AA: 8.33%, AG: 41.67% and GG: 50%. Was observed an increased frequency for the development of symptoms in heterozygote patients. A better understanding of the influence of IL-17 in the generation and regulation of cellular immune response may to provide data for research and development of immunotherapeutics and immunoprophylactics.

**Key Words:** Cutaneous leishmaniasis; Th17; polymorphism.

**Acknowledgements:** CNPq; FACEPE and CPqAM-FIOCRUZ