INTERLEUKIN 10 GENETIC POLYMORPHISMS ARE ASSOCIATED WITH LEPROSY IN BRAZILIAN SUBJECTS

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Interleukin 10 is a cytokine that down regulates cell mediated immunity to intracellular pathogens. A high TNF/IL10 ratio has been related with protection in leprosy and genetic variations of IL10 gene have been correlated with this effect. We have investigated the role of the polymorphisms -819 and -1082 in the proximal region of the IL-10 promoter region in leprosy, in a case-control design with subjects from state of São Paulo. 380 controls and 348 cases, selected in assistance healthy care at Lauro de Souza Lima Institute, were enrolled. Genotyping were performed using genomic DNA by PCR-RFLP. Data were analyzed using Logistic Regression Model with correction for gender and ethnicity (R software). The allelic frequency of -819T allele was 0.31 in controls and 0.40 in cases. The corrected odds ratio (OR) associated to this allele was 1.50 (p=0.012) whilst to TT genotype it was 2.43 (p=0.0007). The frequency of GG genotype was 6.0% in controls and 11.0% in cases and the corrected OR calculated to this was 1.92 (p=0.03), although the frequencies of this allele were similar among the groups. These results are in accord with phenotypic data referring higher production of IL10 associated with presence of these alleles. Regarding haplotype analysis, we observed a protective role associated to -1082A/-819C (OR=0.64, p=0.0014). Results here presented suggest that the alleles -819T and -1082G in promoter region of IL10 gene are risk factors to development of leprosy per se in Brazilian population.

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