

Association of class II HLA alleles with susceptibility to develop immune-mediated diseases in Paraguayan patients

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Abstract

Genetic and nongenetic factors are involved in the pathogenesis of immune-mediated inflammatory diseases (IMIDs). The best-known genetic factor for susceptibility to IMIDs is the human leukocyte antigen (HLA). The aim of the present study was to evaluate the association of HLA class II genes with the risk of systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), and systemic sclerosis (SSc) in the Paraguayan population. We included 254 patients with IMIDs (101 SLE, 103 RA, and 50 SSc) and 50 healthy controls. The haplotypes of five genes corresponding to HLA class II genes and their relationship to the IMIDs studied were determined. Note that 84.6% were women, with a mean age of 43.4 ± 14 years. Among the associated HLA alleles, we found the previously identified risk factors in other populations like HLA-DRB1*03:01 and HLA-DRB1*14:02 for RA, as well as new ones not previously identified, such as DPA1*02:01 for SLE and, DB1*02:01 for RA and SSc. In the genetic association analysis, already known associations have been replicated, and unpublished associations have been identified in Paraguayan patients with IMIDs. This is the first genetic association study in Paraguayan patients with IMIDs.