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HLA A, B, Cw. DRB1 and DQB1 Alleles in Multiple Sclerosis Patients in India

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ABSTRACT Multiple sclerosis (MS) is a clinically heterogeneous demylinating disease and an important cause of acquired neurological disability. MS has been reported from different regions of India and its infrequency has been attributed to have genetic implications. We analyzed the HLA A, -B, -Cw, -DRB1 and DQB1 allele associations in 23 clinically definite MS patients and compared with 146 clinically normal healthy controls. The HLA A, B, Cw, DRB1 and DQB1 alleles were identified the genomic DNA extracted using commercially procured DNA extraction kit (Qiagen kit), HLA A*, HLA B*, HLA Cw*, HLA DRB1*, and HLA DQB1* alleles were identified by PCR-SSOP typing using the commercially procured kits (Dynal or Innolipa)The study revealed a significant increase in HLA A*11:01:01 (pvalue=0.03), B*39:01:01:01 (OR=13.8; pValue=0.0006), Cw*07:01:01 (pValue003), DRB1*15:01:01: (pValue=0.002) and DQB1*02:01:01(OR=9.6;pvalue=9.57E-06) while a significant decrease in HLA A*24:02:01:01(pvalue=0.09), B*40:06:01:01(P value=0.06), Cw*03:02:01 (P value 0.002), DRB1*10:01:01(pValue=0.06) and DQB1*06:01:01 (pvalue=0.06).Our study reveals that there is a population specific HLA allele genetic susceptibility or protection to MS in different populations reported in literature.