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HLA Antigens in Nadars a Native Dravidian Caste Group of Tamil Nadu, South India

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ABSTRACT One hundred and thirty seven unrelated Nadar individuals residing in Tamil Nadu, (South India) were studied for HLA A, B, C and DR locus antigen profiles. The allele frequencies of HLA A9, B5, Cw4, Cw7, DR2 and DR6 were increased while frequencies of HLA A10, B8, B16, B46, B78, Cw5, Cw9 and DR9 were decreased in the Nadars. The gene frequencies of HLA A1, A3, A28, B5, B17, B37, Cw4, Cw5, DR1, DR6 and DR10 were increased while that of A2, A19, B16, B46, Cw3, DR5 and DR9 were decreased when compared with gene frequencies of other Asian populations reported. Two Locus haplotype analyses revealed that A11-B5, A1-B17, A3-B44, A24-B51, B5-Cw9, B44-Cw1, DR4-DQ2 and DR6-DQ1 were significant haplotypes among the positive linkage disequilibrium haplotypes. Where as A1-B5, B5-Cw1 and DR1-DQ2 were significant haplotypes among the negative linkage disequilibrium haplotypes. The haplotypes A3-B44, A24-B51, B44-Cw1 and DR6-DQ1 observed in Nadars were unique when compared to other Indian populations reported in literature. The observed antigen frequencies and linkage disequilibrium in Nadars suggest the influence of genetic drift caused by selection, geography and culture with a lesser degree of admixture. Further the study reveals that the Nadar population of India cannot be considered as a single panmictic population with reference to genetic characteristics, which may have a clinical relevance in unrelated donor selection for allogenic Bone marrow transplantation in India.

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