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Frequencies of HLA-DR7 and HLA-DR4 Alleles in Hungarian Asthmatic Children with Mite Allergy

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ABSTRACT Certain combinations of alleles within HLA-DRB1,-DQA1,-DQB1 region are associated with susceptibility to allergens causing a well-defined disease as bronchial asthma. Our purpose was to study the HLA-DRB1,-DQA1,-DQB1 allelic polymorphisms in 57 patients with bronchial asthma (unrelated children 4 to 17 years of age) caused by mite allergy and 57 unrelated non-atopic controls and 45 non-mite sensitive asthmatic children (aged 4 to 17 years). We examined the allelic polymorphisms by molecular genetic methods. We found an increased frequency ($P < 0.001$) in the haplotype of HLA-DR7 - DQA1*0201 - DQB1*0202 among patients compared to non-atopic controls and non-mite sensitive asthmatic controls and a decreased frequency ($P \leq 0.01$) of HLA-DR4 - DQA1*0301 - DQB1*0302 haplotype among patients compared to non-atopic controls. Our data suggest that HLA-DR7 seems to be predictive factor to bronchial asthma with mite-sensitive Hungarian children. We found that the haplotype of HLA-DR4 - DQA1*0301 - DQB1*0302 may be significantly implicated in the protection to the disease. We could not find any data in the literature referring to the HLA-DR7 and DR4 alleles associated with mite allergic in European population.

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