Turkish Journal of Medical Sciences

Turkish Journal

of

Medical Sciences

Investigation of the HLA class I antigens in patients with primary spontaneous pneumothorax

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Keywords
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Scientific Journals Home Page

Abstract: There is no report investigating the human leukocyte antigen system (HLA) class I alleles and haplotypes in the patients with primary spontaneous pneumothorax (PSP) without any familial history in the literature. We investigated the association of these alleles and haplotypes, and the occurrence of the PSP in Turkish patients. Materials and methods: The study group consisted of 20 patients diagnosed as PSP (without any familial history), and 20 healthy volunteers as control group. All the participants were Turkish male nonsmokers. Their genomic DNAs were extracted from venous samples, and the HLA class I alleles and haplotypes were analysed. Results: The HLA Bw4 allele was significantly increased in the study group (80% vs. 60%, P = 0.05). The frequencies of the HLA Cw7, and B18 alleles were higher in the study group (35% vs. 15%, and 20% vs. 0%, respectively, P > 0.05), and there was a high ratio of the Cw7 homozygotism (30% vs. 10%, P > 0.05). Conclusion: HLA Bw4, B18, and Cw7 alleles may play a genetic role in the development of the nonfamilial PSP in the Turkish population, but further accumulation of the cases are necessary to clarify whether the HLA-typing can confirm the development of a nonfamilial PSP.

Key words: Antibody/antigen, Genes/polymorphism, Pneumothorax

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Turk J Med Sci 2010; **40**(6): 865-869.
Full text: pdf
Other articles published in the same issue: Turk J Med Sci,vol.40,iss.6.