

HLA-A,-B,-C,-DRB1,-DQB1 ALLELE FREQUENCY IN RENAL TRANSPLANT PATIENTS WITH A DIAGNOSIS OF COVID-19

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Objective: We aimed to show that HLA variability in the post-kidney transplant patient population may be related with the incidence of COVID-19 in this study.

Methods: In this study, the frequencies of HLA antigens were retrospectively analyzed in 338 kidney transplant patients, who were being followed up in Transplantation outpatient clinic, whose HLAs were studied in the tissue typing laboratory and who were diagnosed as having COVID-19. As the control group, 409 volunteer healthy individuals with a negative COVID-19 diagnosis, who were registered in the Istanbul Bone Marrow Registry database, were included in the study. The HLA typing were studied with the Luminex in the patients and with the Next-Generation Sequencing in healthy donors.

Results: The most common alleles observed included A*02(26.3%),B*35(23.6%), C*04(30.1%),DRB1*11(23.1%),DQB1*03(43.8%) in the transplant patients who had Covid-19 and A*02(25.1%),B*35(16.6%),C*07(20.6%),DRB1*11(19.6%),DQB1*03(40.9%) in the healthy individuals who did not have COVID-19. A decrease was found in the DRB1*14 allele in the transplant patients who had Covid-19 compared to the healthy controls who did not have Covid-19($p=0.028$,OR=0.625). In addition, an increase was found in the Cw*04 allele in the transplant patients who had Covid-19($p=0.0003$,OR=2.125). Besides, an increase was found in the Cw*07 allele, but it was observed that this increase did not reach statistical significance ($p=0.089$,OR=0.648).

Conclusion: We think that some HLA alleles may predispose to COVID-19 disease. Tissue typing may be helpful in guidance of treatment in patients who are planned to receive kidney transplant by giving an elucidatory idea about which disease-related alleles cause a tendency to disease and which are protective.