

Frequency of HLA Alleles in a Group of Severe COVID-19 Iranian Patients

Summary: Human Leukocyte Antigen (HLA) system composed of a group of related proteins with important functions in the immune system. Several studies have reported that there is a significant association between specific HLA alleles and the susceptibility to different infectious diseases. This study aimed to detect the specific HLA alleles that cause higher susceptibility to COVID-19, we analyzed the HLA allele frequency distribution in Iranian patients with a severe form of COVID-19.

Methods-Results: Overall, 48 severe cases of COVID-19 that were hospitalized and required intensive care unit (ICU) admission between Oct and Dec 2020 were included in this study. Genomic DNA was extracted from the peripheral blood samples and HLA typing (Locus A, B, and DR) was performed for the patients. After analyzing and comparing the results with a reference group of 500 Iranian individuals, a significant association was found for HLA-B*38, HLA-A*68, HLA-A*24, and HLA-DRB1*01.

Conclusion: These results may be valuable for studying the potential association of specific HLA alleles with susceptibility to COVID-19 and mortality due to the disease.