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Short Communication

COVID-19 Disease Severity in HLA Alleles, T-Cell Responses, and Age Association

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A recent study on SARS-CoV-2 reactive T-cell responses among 768 convalescent SARS-CoV-2-infected cases and 500 controls demonstrated that T-cell responses were stable three to eight months following COVID-19 infection, irrespective of disease severity [1]. CD4+ T-cell responses were detected against all M, N, S and S1 proteins, whereas strongest CD8+ T-cell responses was induced by the N protein [1]. Interestingly, CD8+ T-cell response associated with functional antibodies, several class I human leucocyte antigen (HLA) and age, whereas CD4+ T-cell responses correlated with humoral responses, disease severity (statistically significant correlation with obstructive sleep apnea syndrome (OSAS) and hypertension [2]), and age [1]. Particularly, the HLAB07 supertype was identified to be associated with a risk for severe COVID-19 disease, whereas HLA-C*12:02 allele associated with milder disease, as a protective role [2].

In conclusion, T-cell-response heterogeneity after COVID-19 infection has been contributed through the HLA restriction of CD8+ T-cell immunity and other several factors.

Bibliography

1. Olafsdottir TA., *et al*. "HLA alleles, disease severity, and age associate with T-cell responses following infection with SARS-CoV-2". *Communications Biology* 5 (2022): 914.

2. Guerini FR., *et al*. "HLA allele frequencies and association with severity of COVID-19 infection in northern Italian patients". *Cells* 11.11 (2022): 1792.

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