

Clinically important Human Leukocyte Antigen (HLA) Alleles among Bahraini Population

Eman Farid, MD, PhD* Kannan Sridharan, MD, DM**

Background: Human Leukocyte Antigen (HLA) has been well associated with autoimmune and rheumatic disorders; HLA B27 with ankylosing spondylitis, HLA B5 with Behcet's disease, HLA DR3/DR4 with type I diabetes, HLA DR4 with rheumatoid arthritis, and HLA DR2/DR3 with systemic lupus erythematosus. Distribution of HLA alleles has been significantly influenced by ethnicity. Considering the dearth of data on distributions of HLA alleles in Bahraini population, the present study was carried out in healthy individuals.

Objective: To assess the prevalence of HLA B27, HLA B5, HLA DR2, HLA DR3 and HLA DR4 alleles in healthy Bahraini individuals.

Design: A Retrospective Cross-Sectional Study.

Setting: Department of Pathology-Immunology, Salmaniya Medical Complex, Ministry of Health, Kingdom of Bahrain.

Method: Two-hundred and fifty unrelated Bahraini healthy individuals (donors for kidney/bone marrow transplantation that were assessed between 1 January 2017 and 31 March 2019) were included. The following HLA alleles were screened in this cohort: HLA B27 and B5 (Class I), and HLA DR2, DR3 and DR4 (Class II).

Result: Fifty-five (22%) individuals had HLA B5 (with its two splits 51 and 52), 50 (20%) had HLA DR2, 35 (14%) had DR3, 30 (12%) had DR4, and 4 (1.6%) had HLA B27. Fifty-five (22%) individuals had HLA B5 (with its two splits 51 and 52), 50 (20%) had HLA DR2, 35 (14%) had DR3, 30 (12%) had DR4, and 4 (1.6%) had HLA B27.

Conclusion: HLA B27 is a rare allele in the Bahraini population, while the other studied alleles are moderately distributed.

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