

## THE EFFECT OF EPILOPE MISMATCHES ON HAPLOIDENTICAL HAEMATOPOIETIC STEM CELL TRANSPLANTATION

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**Objective:** The immunological impact of HLA number-locus mismatch in HSCT has not yet been fully elucidated. Many databases defining allele epitopes in HLA-mismatched patient-donor pairs have been established. In our study, we investigated the relationship between mismatched HLA antigen epitopes (epMM) in patient-donor pairs and HSCT results.

**Materyal-Method:** We retrospectively evaluated 15 patient-donor pairs who underwent HSCT from 7/10 (n=1), 6/10 (n=2) and haplotype-matched (n=12) donors in the Department of Haematology, Istanbul Medical Faculty between 2018 and 2023. HLA types of patients and donors were analysed by SBT and chimerism analyses were performed by STR in the Tissue Typing Laboratory of Istanbul Medical Faculty. 'HLA Epitope Registry' database was used for epitope analyses.

**Results:** The mean age of the 15 HSCT patients was  $45.6 \pm 13.70$  years (M/F=8/7). We classified epMMs as 0-19 (n=2), 20-40 (n=7) and 40 or more epMM (n=6). One of 2 patients with 0-19 epMM developed aGVHD and 2 developed cGVHD (>0.05), while no survival (>0.05) was observed. Of the 7 patients with 20-40 epMM, 4 developed aGVHD, 2 developed cGVHD (>0.05) and 4 had survival (>0.05). Of the 6 patients with 20 or more epMM, 2 developed aGVHD, 1 developed cGVHD (>0.05) and 1 had survival (>0.05). There was no statistical difference between relapse development-epMM and chimerism status-epMM.

**Conclusion:** In the preliminary data of our study, we could not detect statistical significance between epMM, clinical course after HSCT and chimerism. We think that epitope analyses may help clinicians in providing prediction in alternative donor selection.

**Keywords:** HLA, epitope, haematopoietic stem cell transplantation, GVHD, survival.