

LOCAL ALLELE GROUPS FREQUENCY IN DONORS OF JABLANICA DISTRICT IN COMPARISON TO SERBIAN POPULATION FROM SERBIAN BONE MARROW DONOR REGISTRY

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The knowledge of the genetic diversity of HLA across populations is important in the search for a donor in allogeneic HSCT. This study aims to assess the distribution of allelic groups and estimate haplotypes in subpopulation of donors from the Jablanica district (JD) and compare them with donors from Serbian population. HLA-A, HLA-B, and HLA-DRB1 for 4565 donors from JD were genotyped by PCR-SSO method. Data was compared with the previously known results of 1992 donors from SBDR. Statistics and haplotype estimation were performed by HLA.net Gene(rate) Tools. No deviation from Hardy-Weinberg equilibrium was observed ($p > 0,05$). HLA-A*02 (31,46%), HLA-A*24 (12,31%), HLA-A*29 (1,28%), HLA-B*35 (15,3%), HLA-B*55 (2,15%), HLA-DRB1*10 (1,79%) and HLA-DRB1*11 (19,89%) were more frequent in JD ($p < 0,05$), while HLA-A*25 (1,8%), HLA-A*33 (1,74%), HLA-B*14 (2,0%), HLA-B*39 (2,27%), HLA-DRB1*13 (11,13%) and HLA-DRB1*15 (8,74%) were less frequent ($p < 0,05$). HLA-A*74 (0,05%) was detected in 5 and HLA-B*73 (0,1%) was detected in 9 cases in JD, compared to none in SBDR. A total of 3081 haplotypes were estimated, 9 had frequency more than 1%. The most frequent was A*01-B*08-DRB1*03 (4,89%). The second most frequent in JD was A*02-B*18-DRB1*11 (2,97%), but had frequency less than 1% in SBDR. A*02-B*51-DRB1*16 A*02-B*44-DRB1*16 , A*24-B*35-DRB1*11, A*02-B*51-DRB1*11, A*26-B*38-DRB1*04, A*02-B*27-DRB1*01, A*01-B*35-DRB1*11 were represented with frequency $> 1\%$ in JD. This study provides an insight in diversity in allelic groups and estimated haplotypes of the subpopulation of JD. This data can be used in a more personalized search for the best possible donor.

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