# FREQUENCY OF HLA-B LEADER GENOTYPES IN PATIENTS FOR HEMATOPOIETIC STEM CELL TRANSPLANTATION IN SERBIA

Bjanka Lako Soskic, Glorija Blagojevic, Barbara Jovanovic, Nikola Kacaki, Danica Stefanovic, Zeljka Miladinovic, Jovan Vujovic, Zorana Andric

Blood Transfusion Institute of Serbia, Tissue Typing Department, Belgrade, Serbia

HLA-B leader genotypes, defined by the presence of an amino acid at position −21 (methionine [M] or threonine [T]), may influence NK cell activity and immune response. Understanding their distribution among transplant candidates is important for donor selection and immunogenetic risk assessment. To examine the frequency of HLA-B leader genotypes in patients for hematopoietic stem cell transplantation (HSCT) from all transplant centres in Serbia. The analysis included 601 patients who underwent HLA typing between 2015 and 2023. Typing was performed using molecular methods based on PCR technology. Genotypes were classified into four combinations: TT, MT, TM, and MM, depending on the amino acid present at position −21. To determine the HLA-B leader genotype, the BLEAT–HLA–B Leader Assessment Tool was used. The most prevalent genotype was TT, with a frequency of 57.9% (n=348), followed by MT at 30.12% (n=181), TM at 7.15% (n=43), and MM at 4.83% (n=29). The distribution of T was 67.2%, while M accounted for 32.8%. The results indicate a dominance of the T leaders in the analysed population. The high frequency of the TT genotype may be relevant for donor selection strategies and modulation of NK cell-mediated immune responses. The data obtained form a basis for future research involving clinical transplantation outcomes.

E-mail: lako.bjanka@gmail.com