

ABSTRACT

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Title: Frequency of HLA Antigens in Patients before Bone Marrow Transplantation

Bachelor's Thesis

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Field of study: Medical Laboratory Technician

Background: Elaborated overview of frequency of HLA antigens in patients before bone marrow transplantation who were examined from 2014 to 2016 in Transfusion Department of the University Hospital Hradec Kralove. Compare our data with data provided by Czech National Marrow Donors Registry.

Methods: Patient's HLA alleles were typed by PCR – SSP method. Family members were typed by serological method. After that was conducted a complex statistic processing of our data.

Results: 154 patients before bone marrow transplantation and 157 of their family members were examined from 2014 to 2016. There were 85 men and 69 women tested among the patients. Most patients were between 61 – 70 years of age. Acute myeloid leukaemia was the most common diagnose. A family study was conducted for 92 patients. 36 potential suitable donors were found among family members. No allele had significantly high frequency in the HLA-A loci of patients. In the HLA-B loci had significantly high frequency HLA-B*15 allele (10,065 % vs. 6,800 %). HLA-DRB1*01 allele was also more frequent (13,961 % vs. 9,897 %). There was no proof of association between antigens in the HLA-DRB1 loci of patients and acute myeloid leukaemia.

Conclusions: The frequency of HLA alleles in patients did not differ significantly from the population of the Czech Republic except HLA-B*15 and HLA-DRB1*01 alleles, which occurred significantly more frequently. 23 % of the total number of typed family members were identified as potential suitable donors.

Keywords: HLA system. Typing of HLA antigens. Bone marrow transplantation. Frequency of HLA antigens.