

Abstract

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Title of thesis: Detection and identification of red blood cell antibodies in transfused patients

Background: The aim of the work is a statistical evaluation of the detection of anti-erythrocyte antibodies in patients and pregnant women at the Transfusion Department in Cheb and the Transfusion Department in Karlovy Vary in the years 2021 to 2022. I focus on the frequency, type and clinical significance of antibodies, followed by the occurrence of immunization of respondents after administration transfusion and I evaluate the significance of the enzyme test.

Methods: The work describes the methodologies used at the TO in Cheb during the screening examination of irregular antibodies against erythrocytes, which detect their presence in the examined plasma.

Main findings: Tasks from the Rh system and a higher frequency of occurrence of the anti-Wr^a region were the most represented in the monitored group. The most antibodies were detected in the 60-79 age group, slightly dominated by women. A combination of specific anti-erythrocyte antibodies was detected in some respondents (22.6%). Immunization after administration of transfusion preparation (TP) was confirmed in 15.2% of patients from the total number of positive findings. A post-transfusion reaction occurred in 14 administered TPs. Non-specific reactions in the enzyme test occurred in 14% of the total number of positive findings.

Conclusion: The risk of immunization can be reduced by preventive crossing according to Rh, Kell, possibly Jk phenotype. Our results confirmed the process of alloimmunization during pregnancy. The routine use of the enzyme test in our workplace is not appropriate. Due to the deleukotization of TP during production, the incidence of post-transfusion reactions is low.

Keywords: Immunohematology, blood groups, transfusion, antierythrocyte antibodies, immunization, pretransfusion testing