SCREENING EXAMINATION OF PATIENTS FOR THE PRESENCE OF ANTI-ERYTHROCYTE ANTIBODIES AND DETERMINATION OF FREQUENCY AND SPECIFICITY

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Aim: A screening study was conducted for a period of 6 years (2014 - 2019) in order to establish the presence, frequency and specificity of anti-erythrocyte antibodies in patients admitted for treatment in this period in the University Hospital "St. Anna", Sofia. The aim is to compare these parameters with the established data from previous studies by Bulgarian authors.

Material and methods: The standard immune-hematological methods were used to detect anti-erythrocyte antibodies in the patients' plasma: enzyme method (EM), indirect antiglobulin test (IAGT), direct antiglobulin test (DAGT). Gel cards for column identification and the corresponding equipment for them were used.

Results: Immune-hematological tests were performed on 31,912 patients. Positive results for the presence of anti-erythrocyte antibodies were found by EM at 370C in 1,170 patients (3.7%), by IAGT in 593 (2.04%) and by DATE in 1,617 patients (5.07%). In the identification of proven anti-erythrocyte antibodies, it was found that the most common anti-erythrocyte antibodies with anti-E specificity (average 22.8%), followed by anti-D antibodies (18.0%) and anti-Kell antibodies (13, 7%). The following antibodies bound to the surface of the patient's erythrocytes were identified using DAGT: Ig G - 81.08% and C3d - 8.72%.

Conclusion: The incidence of anti-erythrocyte antibodies in patients who have received incidental blood transfusions, as well as in women with previous pregnancies, is relatively low (1 - 2 - 3%). This frequency is higher in poly-transfused patients, ranging from 5 - 8 - 81%. To prevent transfusion reactions and complications, a history of previous pregnancies and blood transfusions, screening for antibodies, determining their specificity and cross-match with the required blood product are important.