

## DETECTION OF THE C<sup>w</sup> ANTIGEN OF THE RHESUS SYSTEM IN GREEK BLOOD DONORS WITH A NEW METHOD THAT SIMULTANEOUS IDENTIFIES THE ABO GROUP, THE RHESUS AND KELL ANTIGENS: PRODROMAL RESULTS

**AIM:** The C<sup>w</sup> antigen is a rare antigen of the Rhesus system, which arise from the A122G point mutation in the RHCE gene that causes the replacement of one aminoacid (Gln41Arg) in the first extracellular curve of the Rh polypeptide. Its percentage in the Caucasians is <2%, except from the Finlands, where it approaches or exceeds the 4%. It is implicated in cases of alloimmunisation after transfusion and in the Haemolytic Disease of the newborn. The aim of this study is the detection of the C<sup>w</sup> in Greek blood donors and the comparison of its percentage with the known percentages of the white race.

**MATERIAL AND METHOD:** From 30/5/07 – 2/8/07 500 blood donors of random choice have been studied.

The detection of the C<sup>w</sup> has been done with a new card of lateral flow (MD Multicard, Medion Diagnostics AG) that simultaneous identifies the ABO group, the full Rhesus phenotype (C, C<sup>w</sup>, c, D, E, e) and Kell. The sample testing has been performed in 2 sample types, from anticoagulated whole blood (EDTA) and from clotted blood. From the C<sup>w</sup> (+) results the samples have been tested also with the method of gel microtubes (ID-System, Diamed) for confirmation.

**RESULTS:** From the 500 blood donors tested the 478 where of Greek nationality. Among them resulted 7 C<sup>w</sup> (+), percentage 1.46%. The 5/7 had a DCC<sup>w</sup> genotype and the other 2 had a DCC<sup>w</sup>c genotype. There was no discrepancy of the results with the Diamed cards not even between the anticoagulated whole blood and the clotted blood.

**CONCLUSION:** From the first results it is comprehensible that the percentage of C<sup>w</sup> in the Greek blood donors it is proportional with that of the Caucasian race (<2%). The testing of a larger amount of samples it is necessary for the confirmation of the observation.