

# TRANSFUSION OF RhD NEGATIVE PATIENTS WITH RhD POSITIVE RED CELLS CONCENTRATES- THE HPFF,EPE; BLOOD DEPARTMENT EXPERIENCE (2002-2010)

Barra, António; Barradas, Anabela; Cardoso, Edgar; Costa, Carolina; Fontes, Ana; Gil, Alexandra; Oliveira, Carina; Pereira, Fernanda; Rebelo, Sandra  
Hospital Professor Doutor Fernando da Fonseca EPE Amadora - Lisboa

## Background:

In transfusion practice we should respect the ABO group and the RhD phenotype. The lack of availability of red cells concentrates (RCC) RhD negative in the quantities desired, do not always make it possible to satisfy that requirement, especially in urgency. In our practice we never transfuse RhD positive in some groups of patients RhD negative, like women of childbearing age, children, newborns, patients with disease likely to need multiple transfusions (eg: oncologic patients).

## Aims:

The purpose of this study was to access possible allo-immunization in RhD negative receivers who were transfused with RhD positive RCC and try to interpret some findings.

## Methods:

We included in this study all patients RhD negatives who received RhD positives RCC in our department from 2002 to 2010, all of them have been made an antibody screening by IAT and Enzyme before transfusing. We used for antibody screening the Card-ID "LISS/Coombs" with the test cell reagents ID-Diacell I-II-III P. In case of positive results in the prior tests we used for antibody identification the ID-Cards "LISS-Coombs" with the ID-Panel and/or the "NaCl, enzyme teste and cold agglutinins" with the ID-Panel P. When we had doubts in antibody identification with the ID-Panel we tried resolve them using the ID-DiaPanel Plus 6 (All the reagents and cards are DiaMed).

The results for negative antibody screening were considered only if this was confirmed 72 hours after the transfusion with RhD positive RCC.

## Results:

From 2002 to 2010 in our department, we transfused 117 patients RhD negative with 621 units of RhD positive RCC. Only 96 patients had inclusion criteria. They had been transfused with 415 units RhD positive (average 4.48 units/patient). 52 (54.2%) were male and 44 (45.8%) were female. Average age was 77 years old, varying between 23 and 96 years old. 21 (21.9%) patients had positive antibody screening after transfusion and 75 (78.1%) didn't. Those who were positive, in 8 (8.3%) were identified isolated anti-D antibodies, 7 (7.3%) anti-D and others antibodies, 1 (1.0%) anti-Lua antibodies and 5 (5.2%) were inconclusive. Between the patients with positive antibody screening the average age was 77.5 years old, varying between 53 and 89 years old, the total of transfused RCC in this group was 101 (average 4.8 units/patient) and 11 (52.4%) were male and 10 (47.6%) were female. The patients with negative antibody screening had an average age of 75,1 years old, varying between 23 and 96 years old, the total of transfused RCC in this group was 314 (average 4.5 units/patient) and 41 (54.7%) were male and 34 (45.3%) were female.

## Summary/conclusions:

In our study 15.6% of RhD negative patients transfused with RCC RhD positive developed anti-D antibodies. Studying this variables, we couldn't explain why some patients develop antibodies and others don't. Maybe in future studies we have to include other variables for a better understanding of this event.