



High frequency of anti-D antibodies in men-what to do?

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Abstract

Introduction: Alloimmunization of recipients with D antigen of the Rhesus system, as most transfusiologists around the world believe, is not a serious problem, since donor and recipient antigen D matching prevents this undesirable complication. However, the analysis of the structure of alloimmunization of the population, primarily the male contingent, gives reason to doubt the adequacy of this generally accepted way to ensure the safety of blood transfusion.

Aims: To analyze the structure of alloimmunization of men with red blood cell antigens.

Material and Method: From the databases of Surgut and Khanty-Mansiysk for 2016–2019 347 men were selected (39 patients and 308 donors) who had antibodies against red blood cells of various specificity.

Results: The frequency of anti-D antibodies among alloimmunized patients was 33.3%, among alloimmunized donors - 12.6%. Dynamics of the structure of alloimmunization in 2016–2019 in general, it reflects positive shifts towards a decrease in the frequency of anti-D antibodies in men. In particular, the proportion of anti-D among all detected antibodies decreased from 50 to 33.3% in patients and from 18 to 3% in donors. Nevertheless, the fact of the presence of anti-D antibodies and their relatively high frequency in the structure of male alloimmunization are of concern, as are the cases of detection of not only anti-D antibodies, but also anti-C, -E and -c in Rh-positive men who had antigens D, C, E and c in the phenotype.

Discussion: It is unlikely that the presence of anti-D antibodies in Rh men was in all cases the result of a transplacental transfer of antibody-producing cells from the allo-immunized mother to the fetus during childbirth, sexual contacts with D-plus women or due to emergency blood transfusions that were not D-identical. More likely, anti-D antibodies in Rh negative men were the result of blood transfusions from donors mistakenly classified as Rh negative due to the presence of weak and partial forms of D antigen in their red blood cells. Such forms of antigens can be called "serologically negative - immunogenic positive." "According to the Blood Center. OK. Gavrillov (Moscow) 38.9% of male immunized patients (291/730) had anti-D antibodies. According to the REDS-III register, among US donors with anti-erythrocyte antibodies, more than 15% of men had anti-D antibodies.

The presence of anti-D antibodies in Rh-negative male, as well as anti-C, -E and -c in Rh-positive men who had D, C, E and c antigens in the phenotype, indicates the prevalence and immunogenicity of partial forms of not only D antigen, but also antigens C, E and c.

Conclusion: It is necessary to expand studies of the structure of alloimmunization, as well as the frequency of weak and partial forms of erythrocyte antigens in various populations, especially multiethnic ones, where the risk of alloimmunization with erythrocyte antigens is especially high.



Biography:

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