

Prevalence of Weak D Antigen In Western Indian Population

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ABSTRACT

Introduction: Discovery of Rh antigens in 1939 by Landsteiner and Weiner was the revolutionary stage in blood banking. Of these antigens, D, which decides Rh positivity or negativity, is the most antigenic. A problem is encountered when an individual has a weakened expression of D (Du), i.e., fewer number of D antigens on red cell membrane. **Aims and Objectives:** To know the prevalence of weak D in Indian population because incidence varies in different population. To determine the risk of alloimmunization among Rh D negative patients who receives the blood of weak D positive donors. **Material and Methods:** Rh grouping of 38,962 donors who came to The Department of Immunohematology and Blood Transfusion of Civil Hospital, Ahmedabad from 1st January 2013 to 30th September 2014 was done using the DIAGAST (Automated Grouping). The samples that tested negative for D antigen were further analysed for weak D (Du) by indirect antiglobulin test using blend of Ig G and Ig M Anti D. This was done using Column agglutination method in ID card (gel card). **Results:** The total number of donors studied was 38,962. Out of these 3360(8.6%) were tested Rh D negative. All Rh D negative donors were tested for weak D (Du). 22 (0.056% of total donors and 0.65% of Rh negative donors) turned out to be weak D (Du) positive. **Conclusion:** The prevalence of weak D (Du) in Western Indian population is 0.056 %, So the risk of alloimmunization in our setting due to weak D (Du) antigen is marginal. But, testing of weak D antigen is necessary in blood bank because weak D antigen is immunogenic and can produce alloimmunization if transfused to Rh D negative subjects.

Keywords: Immunogenic, Weak D antigen, Western Indian population.

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