Alloimmunization among transfusion-dependent thalassemia patients.

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Source: Asian journal of transfusion science **Volume:** ٣ **Issue:** ٢ **Pages:** ٩٥-٨ **Published:** ٢٠٠٩-Jul

Abstract: BACKGROUND: Thalassemia is a common hemoglobin disorder in Iran and one of the major public health problems. Although blood transfusions are lifesavers for thalassemia patients, they may be associated with some complications especially erythrocyte alloimmunization. The purpose of this study was to investigate the prevalence of red blood cell alloantibodies and to determine types of these antibodies among multiple-transfused thalassemic patients.

MATERIALS AND METHODS: A total of ٣١٣ thalassemia patients in the northeast of Iran, who received regular blood transfusion, were included in this study. Screening of antibodies was performed on fresh serum of all patients and then antibodies were identified in patients' serum that had positive antibody screening test using a panel of recognized blood group antigens.

RESULTS: We identified ١٢ alloantibodies in ٩ patients (٢,٨٧٪) that all were against Rhesus (Rh) blood group antigens (D, C, E). Three patients developed ٢ antibodies, and others had one antibody. The most common alloantibodies were Anti-D (٨٨,٨٨٪) and followed by Anti-C and Anti-E. Higher frequency of alloimmunization was observed in female, Rh negative and splenectomized patients.

CONCLUSION: This study showed that evaluation of the packed cells for Rh (C, E) from the start of transfusion can be helpful in decreasing the rate of alloantibody synthesis.

PubMed ID: ٢٠٨٠٨٦٥٤

Document Type: Journal Article

Language: English

Address: Department of Hematology and Blood Banking, Mashhad University of Medical Sciences, Mashhad, Iran.

ISSN: ١٩٩٨-٣٥٦٥

NLM Unique ID: ١٠١٣٠٦٨٥٨

Country: India

Record Owner: NLM

Status: PubMed-not-MEDLINE

Date Created: ٠٢ Sep ٢٠١٠ **Date Completed:** ١٤ Jul ٢٠١١