

Abstract: P1584

Title: PREVELANCE OF ABO DISCPRENACIES AND ITS CLASSIFACTION IN BLOOD DONORS AT REGIONAL BLOOD CENTRE, KARACHI.

Abstract Type: Poster Presentation

Session Title: Transfusion medicine

Background:

ABO and Rh systems are the most important blood group systems of human body. More than 400 blood group systems have been reported, however majority of them are not clinically significant. The ABO group system comprises of antigens represented by forward blood grouping and antibodies represented by reverse blood grouping. Reverse blood grouping is usually done to verify the results of forward blood grouping. ABO discrepancy is defined as a difference of result between forward and reverse group and has been reported to be around 0.15-0.19%. ABO discrepancies are divided into 4 types. Type 1 discrepancy include those having missing antibodies in reverse grouping and are most common. Type 2 discrepancy include missing antigens in forward grouping. Type 3 are those because of abnormalities in plasma or proteins and type 4 is represented as miscellaneous.

Aims:

The aim of this study was to calculate the frequency of ABO discrepancies in healthy blood donors, its classification into different types and identification of different subgroups in order to provide safe blood to the patients.

Methods:

Descriptive, cross sectional study was conducted at Regional blood centre Karachi from January 2020 to December 2022. All the blood donors accepted at our centres, were included in the study. 52,568 donors were enrolled in the study. Blood samples were collected in di-potassium ethylene diamine tetra acetic acid (K2 EDTA) and yellow gel top vacutainers. Blood grouping was performed by a technician/ technologist by tube method and was reconfirmed by a senior technologist.

Results:

52568 samples were included in the study, with majority of the males. The mean age of blood donors was 28.5 years. ABO discrepancy was found in 92 cases (0.17%). 4 groups of ABO discrepancies were made according to AABO. Most common ABO discrepancy was type 1 (56.5%) followed by type 2 (30.4%). Type 3 and type 4 were 10.9% and 2.2% respectively. Most common blood group associated with ABO discrepancies was O positive, followed by A positive. Moreover, type 1 discrepancy was mostly associated with blood group O and type 3 discrepancy was associated with blood group A, this association was found to be statistically significant. (p value 0.001). Most subgroups were associated with A group.

Summary/Conclusion:

ABO blood grouping remains the most important testing in the blood donors. The significance of determining the actual blood group lies in the fact that safe blood transfusion should be the utmost priority. Complete blood grouping along with resolution of discrepancies will continue to be a significant feature in providing safe blood to the patients and preventing them from fatal transfusion reactions.

Table 3: Association of type of discrepancies with blood groups

Blood Group Interpretation	Type 1	Type 2	Type 3	Type 4	P-value
A+	5	3	13	0	0.001
A-	0	0	1	0	
B+	2	0	13	0	
B-	0	0	2	0	
O+	14	1	9	1	
O-	1	0	0	0	
AB+	1	0	5	0	
A+(subgroup)	1	3	0	0	
B+(Subgroup)	1	2	0	0	
Bombay Rh+	0	0	4	0	
A2B+	1	0	1	0	
A2+	1	0	1	0	
A-(subgroup)	0	0	1	0	
A3+	0	1	0	0	
A2,A1	1	0	0	0	

Keywords: ABO blood group