ESTIMATION OF ANTI-A IgM AGGLUTININ TITERS IN B-BLOOD GROUP INDIVIDUALS: A CROSS-SECTIONAL STUDY

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INTRODUCTION

ABO system has naturally occurring IgM agglutinins.

Importance of estimation of titers: 1) in reducing acute rejection during ABO-incompatible transplantations 2)Relevance in transfusion of ABO-incompatible plasma (e.g., fresh frozen plasma, platelets).3) Higher anti-A titers indicate a stronger immune response to A antigens, which can lead to more severe reactions.4) For Immune Response Assessment: The level of anti-A antibodies can also provide insights into an individual's immune response. High titers might reflect an increased sensitization to A antigens, potentially influencing the immune response in some autoimmune or hypersensitivity conditions.

OBJECTIVES

To estimate Anti-A IgM agglutinin titers in B blood group individuals.

MATERIALS AND METHODS

This was a cross-sectional study performed at a tertiary care hospital-based blood center over 3 months (July to September 2024). Anti-A IgM titer was performed using hemagglutination principle with conventional test tube technique and in house prepared pooled A red cells .

- Blood donor samples used to assess healthy individuals.
- Patient samples analyzed to assess titers in diseased individuals.
- A titer > 64 was taken as high titer.
- The data collected was entered in Microsoft excel and analyzed.

RESULTS

Sample Size: 126 blood samples

Donors: 70

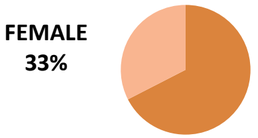
Patients: 56

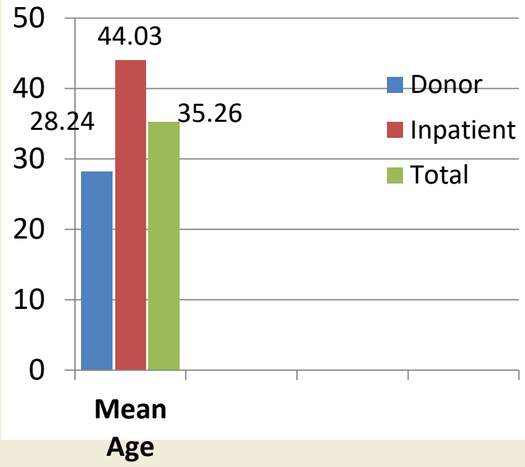
Mean age: 35.26 ± 15.34 years

Gender: 67.46% male (85 individuals)

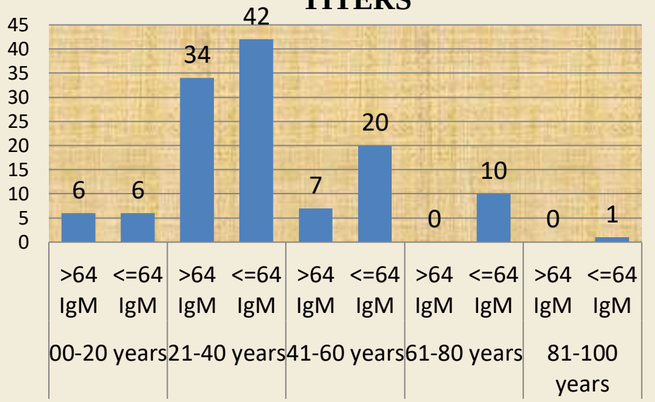
Median titer: 64

Low titer values in 62.7% (79 samples).

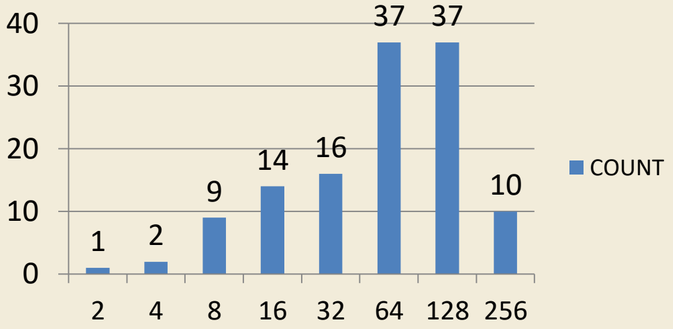


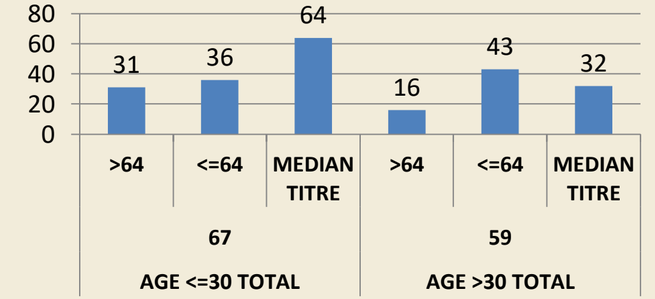


AGEWISE DISTRIBUTION OF IgM TITERS



IgM TITER





Results – Donor Samples(n=70)

Mean age: 28.24 ± 7.17 years

92.85% male (65 individuals)

Median titer: 128

High titer values in 54.28% (38 samples).

Results – Patient Samples(n=56)

Mean age: 44.03 ± 18.16 years

64.28% female (36 individuals)

Median titer: 32

Low titer values in 83.92% (47 samples).

CONCLUSION

Agglutinin titration helps in preventing transfusion reactions.It supports safe ABO-incompatible transplantation and plasma component transfusion.

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