



ANTI A AND ANTI B HAEMOLYSINS AMONG GROUP O BLOOD DONORS

Noor Haslina Mohd Noor et al

Haematology department, Health Campus, Universiti Sains Malaysia, Kubang Kerian, Kelantan

Background

Group O blood donor is more readily available and is frequently used as universal red cell donor and emergency O whole blood (EM O) for exchange transfusion in neonates. Group O blood contains naturally occurring anti-A and anti-B antibodies in its plasma which are not compatible with the red cells of A or B recipients. The presence of high titre anti A and anti B in the donors may lead to hemolysis in the recipients.

Materials and Methods

A retrospective study was done to determine the prevalence anti-A and anti B haemolysin and titer among group O blood donors screened for EM O whole blood for exchange transfusion in neonates at University Sains Malaysia from January to December 2018. ABO antibody titration were done by using the conventional tube technique at room temperature. Donors were screened for titre of 1:50 and 1:100 only. ABO antibody titre of $\geq 1:100$ were considered as high titre and not suitable for exchange transfusion. Titre of $\leq 1:50$ were labelled as EM O whole blood and will be suitable for exchange transfusion. All donors were proceed to haemolysin test using the standard tube technique.

Results

A total of 350 group O blood donors were screened for the anti A and anti B haemolysin and titre.

Majority of blood group O donors were male (n=215, 61%) and were age from 18-30 years old (51%). Malay were the predominant group (83%). About 53% of the donors were low titre ($\leq 1:50$) and 47% were high titre ($\geq 1:100$). Low titre were seen predominantly among male donors (72%). High titre in male and female donors were 51% and 49% respectively. The prevalence of haemolysins in group O donors was 5.4% (n=19). Anti A and anti B haemolysins was seen in 0.57% and 2.28% of the donors respectively, while donors having both A and B haemolysins in their sera was 2.57%. All 19 donors have antibody titre of $\geq 1:100$.

Discussion: Prevalence of anti-A and anti-B haemolysins were low among group O blood donors. However, a significant percentage of group O donors have high titre of anti-A or anti-B. Therefore, despite the labour intensiveness of haemolysis titration technique and the frequent transfusion of group O blood to certain recipients of blood group A, B, and AB, there is the need to routinely screen our donors for haemolysins in order to identify those posing the greatest risk to recipients. Further study to determine the frequency, type of antibody and severity of hemolysis are required so as to justify the clinical significance of such antibodies