

PP 91. The South African National Blood Services Rare Donor Program - April 2017

Lavendri Govender¹; Latoya van Niekerk¹; Ute Jentsch¹; Kuben Vather¹

1 - SANBS

Background

The South African National Blood Transfusion Service (SANBS) Reference Laboratory is the custodian of the South African Rare Donor Database. The Rare Donor Program was initiated many years ago as a collaborative project between SANBS and Western Province Blood Service and there are ongoing efforts to identify rare donors by mass screening of routine donors. SANBS collects blood from approximately 800 000 blood donors annually, representing the different races and ethnic groups from all provinces except the Western Cape. Donors are termed "rare" if they lack antigens that are present in 99% of the general population, also described as being negative for high prevalence antigens. Due to the rarity, sourcing antigen negative blood for those patients who develop antibodies to high prevalence antigens is challenging. Screening for rare donors is done using rare commercial antisera as well as in-house rare anti-sera stock. Additionally, family studies are initiated on finding a rare blood type. Rare donations are available for clinical purposes as frozen units or can be sourced as fresh donations from eligible rare donors. The aim of this review is to present the current status of the Rare Donor Database.

Method

Data was obtained from the Reference Laboratory Business Intelligence Report detailing the rare donor statistics in terms of: rare blood types, number of rare donations in frozen storage, active rare donors, number of rare donors screened in the last year and new rare donors identified and rare donors genotyped.

Results

The Rare Donor Database currently comprised of 16 different rare blood types, 79 active rare donors and 170 rare donations in frozen storage. Regarding each rare blood type, the number of active rare donors and number of rare donations stored, is as follows; **Bombay Oh**: 5 active, 15 stored units, **Do(b-)**: 4, 15, **hrS Negative**: 10, 33, **In(a+b-)**: 0, 1, **Js(b-)**: 7, 9, **kk Negative**: 5, 5, **Kn(a-)**: 3, 20, **Kp(b-)**: 2, 2, **Lan Negative**: 1, 4, **Lu(b-)**: 1, 5, **U negative**: 8, 4, **Vel Negative**: 2, 14, **Yt(a-)**: 1, 8, **Rh:-34**: 23, 24, **STEM positive** (1, 2) and **U variant**: 6, 9. Mass screening for rare donors was performed serologically on 3263 donors between April 2016 and April 2017 and 30 new rare donors were found: RH:-34, U-, Js(b-), k- and LAN-. Furthermore, all 79 active rare donors have been genotyped indicating a high degree of genetic variability. 15 rare cases were outsourced for red cell sequencing and characterised at a molecular level due to discrepancies with serological and genotypic results.

Conclusion

SANBS receives about 15 requests for rare blood annually and is able to provide this blood in most instances. Therefore, the maintenance of the SA Rare Donor Data base is a critical function in managing these requests and maintaining sufficient numbers of active rare donors. A key strategic objective at SANBS is to explore more time-efficient screening processes and to augment serological screening with genotyping and sequencing more broadly to better characterise new rare donors in South Africa.