Investigating the Impact of Donor Characteristics on Blood Product Quality

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Background

Changes to Canadian Blood Services (CBS) Donor Eligibility Criteria

In Canada, there is no upper age limit for blood donors and as of March 2021, most individuals with diabetes are eligible to donate blood.

Since blood products are not standardized like other therapeutics, we need to ensure that older or diabetic donors provide blood products of similar quality to younger, healthier donors.

Storage Times and Resulting Lesions to Blood Products

Effects of Aging and Glycemic Control on Blood Products

There is a need to assess the impact of these factors in the CBS donor population.

Feasibility Data

Will platelet activation in retention samples (stored up to 5 days) reflect baseline platelet activation?

Are there enough donors with T1D in Vancouver for our study?

Can single-donor buffy coat platelet products be produced for storage studies?

Next Steps

Validation of red cell concentrate storage in transfer bags for Dr. Acker’s additional assays over the storage period

- Begin flagging donor records for the receipt of retention samples in Aim 1 - pending CBS ethics approval

- Begin donor recruitment for whole blood donation study - pending CBS ethics approval

Potential Impact

Significant donor characteristic-dependent differences: Tailored storage times based on individual donor characteristics

- No donor characteristic-dependent differences: Useful information for other blood services worldwide on the implications of expanding donor eligibility criteria

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