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2019

Study Title

ACP-215 Cryopreserved Red Cells: Evaluation of theInternational Exchange of Products

Study Description

The cryopreservation of red blood cells is often reserved for donations from individuals with rare RBC phenotypes. In unique situations, the demand for a rare RBC phenotype cannot be sourced from a national frozen red cell inventory. While international centers can deglycerolize and ship compatible red cell products, the post-deglycerolization storage age of those products is between 3-14 days, which significantly shortens the window for transfusion once the products are received3. If it is then determined that the product is not required by the patient, the product cannot be re-frozen for future use and is discarded. With the ability to deglycerolize red cell products from other international organizations, blood product utilization would be improved by increasing the window for transfusion of products and the waste of rare red cell products would be decreased.

The functionality of the ACP-215 for the preparation of cryopreserved red blood cell products is relatively standardized. However, there are two main protocol options recommended by the manufacturer [one with (two spin) and one without (single spin) removal of supernatant glycerol prior to freezing] and two deglycerolization centrifuge bowl sizes available1,2. Additionally, site to site differences in red cell manufacturing, pre- and post- storage durations, and post-deglycerolization additive solution significantly increase the disparity between products. Evaluation of these differences would give blood centers a better insight into how these differences impact red cell in vitro quality.

Aims:
To exchange frozen blood products between blood centers and investigate:
1. Compatibility of externally glycerolized and cryopreserved red cell products with local thawing and processing procedures.
2. The ability of externally glycerolized and cryopreserved red cell products thawed locally to meet local in vitro RBC quality standards.
3. Differences in in vitro quality between locally cryopreserved / thawed product and externally cryopreserved / locally thawed product quality.

Study Status

Active

Publication Number

Teams

CC

Study Leaders

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