



Retrospective Comparison of Quality and Economic Impact of Single-Donor Platelet Collection by Three Different Cell Separator Systems

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Background and Objective: The components of whole blood are red cells, white cells, platelets and plasma. Plateletpheresis is the process of removing whole blood from a donor, separating the blood into its components, by keeping only the platelet, and then return the remaining blood components back to donor. The objective of this study was to compare the quality of product among three different apheresis devices.

Materials and methods: Three different apheresis devices; A,B and C (N= 754, 504 and 286 units, respectively) in Blood Transfusion center, faculty of Medicine, Khon Kaen university were compared for PLTs (SDPs) yield, volume process, time and cost effectiveness, during January to December 2015.

Results: The volume process of each apheresis devices were A = $3,667.8 \pm 256.8$, B = $3,972.4 \pm 517.7$ and C = $3,410.6 \pm 325.5$ ml. Processing time were B =

67.7 ± 8.2 min less than A and C (77 ± 13 and 76.1 ± 9.9 min). Platelets yield was B >C>A ($13.2 \pm 2.3/ 9 \pm 1.2/ 8.9 \pm 1.8$ units, respectively). And cost for preparation for a therapeutic dose were C>B>A =7,640/ 7,560/ 7,073 THB.

Conclusion: The B machine was found to be faster and more efficient than A and C, and the highest yield was B>C>A. And we can use this information for the decisions to use apheresis device at Blood Transfusion Center, faculty of Medicine, KKU.

