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The pilot study of evaluation of leukocyte-depleted platelet concentrates by Autostop TM BC filter at Blood Transfusion Centre, Faculty of Medicine, Khon Kaen University, Thailand

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Background & Objectives: The use of leukocyte-depleted platelet concentrates (LD-PCs) is justified, yet especially in hemato-oncology patients with multi platelet concentrates transfusion. We have assessed the *in vitro* quality of WBC-reduced PCs obtained by using Autostop TM BC filter.

Materials & Methods: Twenty-four blood units were collected to standard component preparation and pooled to leukocyte poor platelets concentrates (LPPC). The LPPC with Autostop TM BC was added in line filtration to LD-PCs, or for processing including in-line leukodepletion of platelet-rich plasma using an Autostop TM BC filter. The results of PCs were compared during storage for several *in vitro* platelet quality parameters, content of platelets yields and white blood cells contamination. The conventional methods for LPPC is from four iso-blood group buffy coats. The development is pooled from three buffy coat units and compare with conventional method.

Results: In-line filtration of platelet-rich plasma through Autostop TM BC filter was highly efficient rendering PCs with 99.95% less white blood cells (WBCs) than standard PCs (<1x10⁶ leukocytes). And the three-buffy coats pooled is similar of standard units by whole blood from female only (P value <0.1). The procedure for three-buffy coats (N=3 pooled) was centrifuge at 1700 rpm, 4 minutes, by Cryofuge 8500i. The average of LD-PCs was 3.1x10¹¹ cells/pooled.

Conclusion: In-line filtration during component preparation appears as an easy and effective procedure for obtaining pre-storage leukocyte-depleted PCs and it will decrease donor's exposure from four donors to three donors (decrease infection risk 25%) by female whole blood donation.

Biography

Nuanchan Mungkhunkhamchaw has completed her BSc (Transfusion Science) from Mahidol University, Thailand. She is the Supervisor in blood components preparation at Blood Transfusion Centre, Faculty of Medicine, Khon Kaen University, Thailand.

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