

11th International Conference on

Hematology & Hematological Oncology

November 08-09, 2017 | Las Vegas, USA

The development of LPPC in PAS in blood transfusion center: Faculty of Medicine Khon Kaen University, Thailand

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Background & Objective: Platelet additive solutions (PAS) are crystalloid nutrient media used in place of plasma for platelet storage. They replace 60-70% of plasma in platelet components. So the amount of storage plasma can be decreased. Platelet stored in PAS have been demonstrated to have a lower risk for allergic transfusion reactions and appeared to have equivalent clinical efficacy for controlling bleeding, compared to platelets stored in 100% plasma. We try to bring PAS to replace plasma in making leukocyte poor platelet concentrates (LPPC) compared with conventional methods that use plasma, 1 bag of total buffy coat 4 units.

Objective: The objective of this study was to prepare LPPC in PAS in our routine work, instead of the traditional LPPC.

Methods: PAS and plasma using a ratio of 65:35 in accordance with the standard reference. Then LPPC in PAS were measured for the volume, content of platelet concentrates, white blood cell contamination and the titer of anti-A and anti-B compared to traditional methods.

Results: LPPC in PAS had volumes 304 ± 20 ml, content of platelet concentrates $2.8 \pm 0.5 \times 10^{11}$ cells/unit and had 0.1×10^9 white blood cells contamination. LPPC from traditional methods had volumes 324 ± 16 ml, contents of platelet concentrate $3.9 \pm 0.3 \times 10^{11}$ cells/unit and had 0.1×10^9 white blood cells contamination. The titer of anti-A and anti-B in LPPC in PAS is less than or equal to 64, all of which are classified as low titer, but LPPC from the traditional way with a titer of anti-A and anti-B over 64 about 20 %.

Conclusion: All LPPC in PAS are classified as low titer, which led to the patient at any group. Content of platelet concentrates from LPPC in PAS provides reached the recommended quality of Council of Europe (EU) and National Blood Centre, Thai Red Cross Society (TRC).

Biography

Jongkol Akahat has completed her M.Sc. (Clinical Pathology) , B.Sc.(Med.Tech) from Mahidol and Khon Kaen university, respectively. She is a medical technician specialist in All blood transfusion science; HLA, genotyping, serology, etc. At present, her position is the head of blood components preparation in Blood Transfusion Centre, faculty of Medicine, Khon Kaen University, Thailand.

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