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Enumeration of residual white blood cells in leuko-depleted blood products

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Introduction: Quality assurance of white blood cells (WBC) depletion require in QC blood products. Inline filter and automate centrifuge (Reveos-system) produce the leuko-depleted blood product in routine, therefore we need the new method for WBC counting, to assure the blood products.

Objective: To count WBC in leukocyte depleted red blood cell (LD-PRC) from inline filter or Reveos blood bag and leukocyte depleted pooled platelet concentrates (LD-PC).

Method: At least 1% were sampling from total units of LD-PRC (N=20) and LD-PC (N=12) in routine unit for WBC enumeration within 6-8 hours after collection. The WBC in samples was stain by fluorescent dye, use LED excitation and CCD detection technologies makes the WBC analysis result.

Result: Residual WBC in LD-PRC and LD-PC are 0.26 ± 0.21 and $0.23 \pm 0.12 \times 10^6$ cells /unit (X+SD), respectively. The maximum WBC residual in both products are 0.47 and 0.35×10^6 cells/unit. The waiting time for results interpretation was almost 8 minutes per test.

Conclusion: The leuko-depleted blood product in blood transfusion centre, faculty of medicine, Khon Kaen University are accepted by standard of American Associated of Blood Transfusions (AABB) and European Standard, by the new standard of automatic residual leukocyte counting (rWBC-ADAM). And the technique was easy to use and effective in routine.

Biography

Thipaporn Jaroonsirimaneeekul 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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