

## ABSTRAK

**Latar Belakang:** Pemeriksaan *Plasma Prothrombin Time* (PPT) adalah pemeriksaan hemostasis untuk pasien preoperasi dan pasien dengan riwayat gangguan hemostasis. Mutu hasil pemeriksaan PPT dapat dipengaruhi oleh faktor praanalitik seperti penyimpanan spesimen. Peningkatan lama penyimpanan plasma sitrat menyebabkan perubahan stabilitas sampel karena faktor koagulasi yang bersifat labil. Hal tersebut menyebabkan terjadinya pemanjangan nilai PPT.

**Tujuan Penelitian:** Mengetahui pengaruh lama penyimpanan plasma sitrat pada suhu  $25\pm 1^{\circ}\text{C}$  terhadap nilai PPT.

**Metode Penelitian:** Jenis penelitian yang digunakan berupa praeksperimen dengan rancangan *posttest only*. Penelitian ini menggunakan sampel plasma sitrat yang dibagi menjadi 4 kelompok perlakuan yaitu penyimpanan plasma sitrat pada suhu  $25\pm 1^{\circ}\text{C}$  selama 0 jam (pemeriksaan segera), 2 jam, 4 jam dan 6 jam. Data yang diperoleh dianalisis secara statistik dengan uji normalitas data dan uji *Repeated Measures ANOVA*.

**Hasil Penelitian:** Hasil penelitian ini menunjukkan adanya perbedaan nilai *Plasma Prothrombin Time* pada plasma sitrat dengan variasi lama penyimpanan pada suhu  $25\pm 1^{\circ}\text{C}$  berdasarkan analisis statistik *Repeated Measures ANOVA*. Persentase pemanjangan hasil pemeriksaan PPT pada plasma sitrat yang disimpan selama 2 jam, 4 jam dan 6 jam berturut-turut yaitu 1,4%, 4,2% dan 6,6%. Hasil uji lanjut menunjukkan lama penyimpanan plasma sitrat selama 6 jam mampu memberikan pengaruh signifikan terhadap pemanjangan hasil pemeriksaan PPT namun tidak bermakna secara klinis karena persentase peningkatan nilai PPT  $<10\%$  sehingga hasil pemeriksaan sampel plasma sitrat yang disimpan hingga 6 jam masih dapat diterima.

**Kesimpulan:** Ada pengaruh lama penyimpanan plasma sitrat pada suhu  $25\pm 1^{\circ}\text{C}$  terhadap nilai PPT. Waktu penyimpanan plasma sitrat selama 6 jam tidak menyebabkan perubahan interpretasi hasil secara klinis terhadap nilai PPT karena persentase peningkatan nilai PPT  $<10\%$ .

**Kata Kunci:** lama penyimpanan, plasma sitrat, *Plasma Prothrombin Time* (PPT)

## ABSTRACT

**Background:** The examination of Plasma Prothrombin Time (PPT) is hemostatic examination for preoperative patients and patients with a hemostatic disorder history. The quality of PPT examination results can be influenced by preanalysis factors such as specimen storage. The increase in citrate plasma storage time causes changes in sample stability due to coagulation factors which are labile. This causes an extension of the PPT value.

**Research Objective:** To determine the effect of citrate plasma storage time at  $25\pm 1^{\circ}\text{C}$  on the PPT value.

**Research Methods:** The type of research used in this paper is preexperiment with a posttest only design. This study used citrate plasma samples divided into 4 treatment groups, namely citrate plasma storage at  $25\pm 1^{\circ}\text{C}$  for 0 hours (immediate examination), 2 hours, 4 hours and 6 hours. The collected data were analyzed statistically with normality data test and repeated measurement ANOVA statistical analysis

**Results:** The results of this study indicate a difference in the value of Plasma Prothrombin Time in citrate plasma with variations in storage time at  $25\pm 1^{\circ}\text{C}$  based on repeated measurement ANOVA statistical analysis. The percentage of prolonged PPT examination results on citrate plasma stored for 2 hours, 4 hours and 6 hours were 1,4%, 4,2% and 6,6%, respectively. The results of further trials showed that citrate plasma storage for 6 hours was able to have a significant effect on prolonging the results of PPT examination, but it was not clinically significant because the percentage increase the value of PPT  $<10\%$  so examination results on citrate plasma stored up to 6 hours can still be accepted.

**Conclusion:** There is an effect of citrate plasma storage time at  $25\pm 1^{\circ}\text{C}$  on the PPT value. The storage time of citrate plasma for 6 hours did not change the clinical interpretation on the PPT value because the percentage increase the value of PPT  $<10\%$ .

**Keywords:** storage time, citrate plasma, Plasma Prothrombin Time (PPT)