

**PERBANDINGAN KADAR ASAM URAT PADA SERUM LIPEMIK YANG  
DIOLAH MENGGUNAKAN *POLYETHYLENE GLYCOL* 6000 1,5 % DAN  
*HIGH SPEED SENTRIFUGATION***

Listia Sri Wahyuni

P17334121072

**ABSTRAK**

Serum lipemik dapat didefinisikan sebagai kekeruhan pada sampel karena adanya kenaikan partikel lipoprotein terutama lipoprotein tinggi trigliserida. Salah satu pemeriksaan yang terganggu oleh lipemik yaitu pemeriksaan asam urat metode uricase. Pengolahan serum lipemik dapat dilakukan dengan cara sentrifugasi, pengenceran, ekstraksi dan presipitasi menggunakan Alfa-siklodekstrin ( $\alpha$ -CD) atau *Polyethylene Glycol* (PEG). Penelitian ini bertujuan untuk mengetahui dan membandingkan kemampuan PEG 6000 1,5% dan *high speed sentrifugation* 15000 rpm selama 15 menit dalam pengolahan serum lipemik untuk pemeriksaan asam urat. Jenis penelitian ini adalah eksperimen laboratorium dengan desain *one group pre-test post test* dimana diukur kadar asam urat dalam *pooled sera* sebelum diberi perlakuan, kemudian dibuat modifikasi lipemik  $\pm 1000$ ,  $\pm 1500$ , dan  $\pm 2000$  mg/dL dan diberi perlakuan kemudian diukur kembali kadar asam uratnya. Hasil penelitian didapatkan bahwa kadar asam urat pada *pooled sera* adalah 4,5 mg/dL, setelah dimodifikasi lipemik  $\pm 1000$ ,  $\pm 1500$ , dan  $\pm 2000$  mg/dL kadarnya meningkat menjadi 5,5; 6,1; dan 6,4 mg/dL. Kemudian dilakukan pengolahan dengan PEG 6000 1,5% dan kadarnya turun menjadi 4,6; 5,0; dan 5,4 mg/dl atau turun sebanyak 16%, 19%, dan 15%. Sedangkan, yang diolah dengan *high speed sentrifugation* kadarnya menjadi 4,6; 5,1; dan 5,7 atau turun sebanyak 16%, 17%, dan 10%. PEG 6000 1,5% dan *high speed sentrifugation* 15000 rpm selama 15 menit optimal untuk pengolahan serum lipemik dengan kadar trigliserida  $\pm 1000$  mg/dL. Dari hasil pengujian statistik *One Way ANOVA* untuk pengolahan serum lipemik menggunakan PEG 6000 1,5% dan *high speed sentrifugation* didapatkan hasil Sig. 0,859; 0,275; dan 0,116 ( $p > 0.05$ ) sehingga tidak terdapat perbedaan yang signifikan di antara kedua perlakuan tersebut.

Kata kunci : *Polyethylene Glycol*, *High Speed Sentrifugation*, Lipemik, Asam Urat

**COMPARISON OF URIC ACID LEVELS IN LIPEMIC SERUM  
PROCESSED USING POLYETHYLENE GLYCOL 6000 1.5% AND HIGH  
SPEED CENTRIFUGATION**

Listia Sri Wahyuni

P17334121072

**ABSTRACT**

*Lipemic serum can be defined as turbidity in the sample due to the increase in lipoprotein particles, especially lipoproteins high in triglycerides. One of the examinations that is disrupted by lipemic is the uric acid examination of the uricase method. Treatment of lipid serum can be done by centrifugation, dilution, extraction and precipitation using Alpha-cyclodextrin ( $\alpha$ -CD) or Polyethylene Glycol (PEG). This study aims to determine and compare the ability of PEG 6000 1.5% and high speed centrifugation 15000 rpm for 15 minutes in the processing of lipid serum for uric acid examination. This type of research is an laboratory experiment with a one-group pre-test post test design where uric acid levels in pooled sera are measured before being treated, then lipid modifications are made  $\pm 1000$ ,  $\pm 1500$ , and  $\pm 2000$  mg/dL and given treatment and then the uric acid levels are measured again. The results of the study found that the uric acid level in pooled sera was 4.5 mg/dL, after modifying the lipids of  $\pm 1000$ ,  $\pm 1500$ , and  $\pm 2000$  mg/dL, the levels increased to 5.5, 6.1, and 6.4 mg/dL. Then treatment was carried out with PEG 6000 1.5% and the levels decreased to 4.6, 5, and 5.4 mg/dl or decreased by 16%, 19%, and 15%. Meanwhile, those processed with high speed centrifugation had levels of 4.6, 5.1, and 5.7 or decreased by 16%, 17%, and 10%. PEG 6000 1.5% and high speed centrifugation 15000 rpm for 15 minutes are optimal for the treatment of lipid serum with triglyceride levels of  $\pm 1000$  mg/dL. From the results of the statistical test of One Way ANOVA for the treatment of limeric serum using PEG 6000 1.5% and high speed centrifugation, the results were Sig. 0.859, 0.275, and 0.116 ( $p > 0.05$ ) so that there was no significant difference between the two treatments.*

*Keywords : Polyethylene Glycol, High Speed Centrifugation, Lipemic, Uric Acid*