

THE DIFFERENCE OF ASPARTATE AMINOTRANSFERASE (AST)
ENZYME ACTIVITY IN LITHIUM HEPARIN PLASMA USING
SEPARATOR TUBE AND VACUTAINER ON POST-HEMODIALYSIS
PATIENTS

Mayang Puspita TP*, Subrata Tri Widada, Narendra Yoga H
Health Analyst Department of Polytechnic Ministry of Health, Yogyakarta
Ngadinegaran MJ III/62, Yogyakarta, 55143,

*Corresponding author, Email : mayangpuspitanaputri@gmail.com

ABSTRACT

Backgrounds: Currently the use of plasma samples is widely used in laboratories because the advantage able to increase analytic stability and reduce the level of hemolysis during the separation process and do not need additional time for blood clotting , shorter centrifugation time and also reducing turn-around time (TAT). Patients with end-stage chronic kidney failure that treated with heparin anticoagulants pose a challenge because blood is difficult to freeze. Patients undergoing hemodialysis are at high risk of developing hepatitis C virus due to the procedure of own dialysis, decreased function of cellular immunity and prolonged exposure to blood products.

Objectives: to determines differences in the activity of Aspartate Aminotransferase (AST) enzymes in lithium heparin plasma using separator tube and vacutainer in post hemodialysis patients.

Methods: This research is a pre-experimental design with a Static Group Comparison research design. The population of this study was patients in Hemodialysis Unit who had completed dialysis treatment (post hemodialysis) at Sleman Hospital. The sample in this study was part of the hemodialysis ward patients who had finished dialysis treatment (post hemodialysis) at Sleman Hospital. Data analysis use the independent sample T-test.

Results: The average activity of the AST enzyme (Aspartate Aminotransferase) using plasma samples on the Plasma Separator Tube is 25 ± 12.4 U / L and Lithium Heparin Vacutainer was 27 ± 12.5 U / L. The difference between tubes is 7.4%.

Conclusions: There is no difference in the activity of the Aspartate Aminotransferase (AST) enzyme in lithium heparin by using separator tube and vacutainer in post hemodialysis patients ($p=0,654$).

Keywords: lithium heparin plasma, aspartate aminotransferase enzyme, separator tube, vacutainer

PERBEDAAN AKTIVITAS ENZIM *Aspartate Aminotransferase* (AST) PADA PLASMA *LITHIUM HEPARIN* DENGAN PENGGUNAAN *SEPARATOR TUBE* DAN *VACUTAINER* PADA PASIEN *POST* HEMODIALISA

Mayang Puspita TP*, Subrata Tri Widada, Narendra Yoga H
Jurusan Analis Kesehatan Poltekkes Kemenkes Yogyakarta
Jl. Ngadinegaran MJ/III No.62, Mantrijeron, Yogyakarta
Email : mayangpuspitanaputri@gmail.com

ABSTRAK

Latar Belakang : Saat ini penggunaan sampel plasma banyak digunakan pada laboratorium karena keuntungannya adalah dapat meningkatkan stabilitas analit dan mengurangi tingkat hemolisis saat proses pemisahan dan tidak perlu waktu tambahan untuk pembekuan darah, disentrifugasi juga lebih pendek, mengurangi *turn-around time* (TAT). Pasien dengan gagal ginjal kronis tahap akhir yang diterapi dengan antikoagulan heparin memberikan tantangan tersendiri karena darah sulit membeku. Pasien yang menjalani hemodialisa memiliki resiko tinggi terkena virus hepatitis C yang disebabkan karena prosedur dari dialisis sendiri, penurunan fungsi imunitas seluler dan pajanan dengan produk darah dalam waktu lama.

Tujuan Penelitian : mengetahui perbedaan aktivitas enzim *Aspartate Aminotransferase* (AST) plasma lithium heparin dengan penggunaan *Separator Tube* dan *Vacutainer* pada pasien *post* hemodialisa.

Metode Penelitian : penelitian ini merupakan penelitian *pre experimental design* dengan desain penelitian *Static Group Comparison*. Populasi penelitian ini adalah pasien Unit Hemodialisa yang telah selesai melakukan perawatan cuci darah (*post* hemodialisa) di RSUD Sleman. Sampel penelitian ini adalah bagian dari pasien bangsal hemodialisa yang telah selesai melakukan perawatan cuci darah (*post* hemodialisa) di RSUD Sleman. Analisis data menggunakan *independent sample T-test*.

Hasil Penelitian : rata-rata aktivitas enzim AST (*Aspartate Aminotransferase*) dengan menggunakan sampel plasma pada *Plasma Separator Tube* sebesar $25 \pm 12,4$ U/L dan *Vacutainer Lithium Heparin* sebesar $27 \pm 12,5$ U/L. Selisih rata-rata antar tabung sebesar 7,4 %.

Kesimpulan : tidak ada perbedaan aktivitas enzim *Aspartate Aminotransferase* (AST) pada plasma *lithium heparin* dengan penggunaan *separator tube* dan *vacutainer* pada pasien *post* hemodialisa ($p=0,654$).

Kata kunci : plasma *lithium heparin*, *Aspartate Aminotransferase* , *separator tube*, *vacutainer*