PENGARUH BAWANG LANANG HITAM TERHADAP KADAR KREATININ SERUM PADA TIKUS (*Rattus norvegicus*) INDUKSI STREPTOZOTOCIN

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ABSTRAK

Latar Belakang: Nefropati diabetik merupakan komplikasi diabetes yang disebabkan oleh kerusakan jaringan ginjal akibat radikal bebas. Kerusakan ginjal dapat dideteksi melalui pemeriksaan kadar kreatinin serum. Salah satu potensi lokal yang memiliki kandungan antioksidan yang tinggi adalah bawang lanang hitam. Antioksidan seperti SAC dan flavonoid pada bawang lanang hitam berpotensi untuk menurunkan kadar kreatinin di dalam darah.

Metode Penelitian: Metode yang digunakan pada riset ini adalah eksperimental dengan *pretest* dan *posttest* kelompok kontrol. Kelompok dibagi menjadi 6 yaitu kelompok kontrol sehat, kelompok kontrol sakit, kelompok intervensi dengan 3 variasi dosis, dan kelompok kontrol positif. Intervensi seduhan bawang lanang hitam diberikan selama 14 hari dengan waktu sehari dua kali.

Hasil Penelitian: Hasil pemeriksaan *pretest* kadar kreatinin menunjukkan kelompok A memiliki rata-rata paling rendah yaitu 0,70±0,21. Uji *Kruskal Wallis pretest* kadar kreatinin menunjukkan nilai $p<0,05$. Uji lanjut *posthoc Mann Whitney U Test* data *pretest* kreatinin dengan hasil kelompok yang memiliki perbedaan bermakna hanya kelompok A-F, kelompok A-E, kelompok C-E, kelompok C-F. Hasil pemeriksaan *posttest* kadar kreatinin menunjukkan rata-rata kelompok B memiliki rata-rata tertinggi sebanyak 1,45±1,1. Uji beda ANOVA data *posttest* kreatinin ditemukan bahwa nilai $p<0,05$. Uji lanjut *posthoc Duncan* data *posttest* kreatinin, kelompok B memiliki perbedaan bermakna dibandingkan kelompok yang lain. Pada hasil pemeriksaan selisih *pretest* dan *posttest* menunjukkan kelompok E dengan intervensi bawang lanang hitam dosis 2,6 gr/kgBB memiliki rata-rata tertinggi yaitu 1,95±0,40. Uji beda *Kruskal Wallis* nilai p sebesar $p<0,05$. Uji lanjut menggunakan *posthoc Mann Whitney U Test* dengan hasil pasangan kelompok yang memiliki perbedaan adalah kelompok A-C, A-D, A-E, A-F, B-C, B-D, B-E, B-F, C-E, dan C-F.

Kesimpulan: Seduhan bawang lanang hitam berpengaruh terhadap penurunan kadar kreatinin secara signifikan dengan dosis yang disarankan 2,6 gr/kgBB.

Kata Kunci: Bawang Lanang Hitam, Kreatinin, Tikus Wistar, Nefropati Diabetik

THE EFFECT OF SINGLE CLOVE BLACK GARLIC TO CREATININE LEVEL IN STREPTOZOTOCIN INDUCED RATS (*Rattus Norvegicus*)

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ABSTRAK

Background: Nephropathy diabetic is the complication of diabetes which is caused by renal artery damaging due to free radical. This case can be detected by creatinine serum level. One of local wisdom which effectively reducing free radical is single clove black garlic. It because single clove black contains high antioxidant such as flavonoid and SAC which can be decreasing creatinine level in the blood.

Method: The method of this research use experimental design with control group pretest and posttest. The group was divided into 6 groups and the sampling technique uses random sampling. This research was presented as mean ± SD for 4 rats in each group and data were analysed by ANOVA or Kruskal Wallis followed by Duncan or Mann Whitney U Test. Single clobe brewed black were administrated orally twice a day for 14 days.

Result: The result of data pretest shows group A has the lowest mean 0,70±0,21. Kruskal Wallis test of data pretest also presents $p<0.05$ so there is difference among all the group. Data pretest were analysed again to posthoc Mann Whitney U Test and the result is only group A-E, A-F, C-E, C-F which significally different. Data posttest shows group B has the highest mean 1,45±1,1 regarding to other group. Data posttest were analysed by ANOVA and the value is $p<0.05$. Data posttest were analysed again by posthoc Duncan and the result is only group B which significally different to the others. Data deviation of pretest and posttest shows group E has the highest regarding to the others and then the data was analysed by Kruskal Wallis, the values of p is lower than 0.05. Subsequently, data deviation were analysed again with posthoc Mann Whitney U Test and the result shows that group A-C, A-D, A-E, A-F, B-C, B-D, B-E, B-F, C-E, and C-F is significally different.

Conclusion: Brewed single clove black garlic has the effect for decreasing creatinine level in blood with the recommendation dosage 2,6 gr/kgBB.

Keywords: Black Garlic, Creatinine, Rats, Nephropathy Diabetic.