

ABSTRAK

PENGARUH PEMBERIAN *N-Acetylcysteine* (NAC) TERHADAP PROFIL LIPID DAN TNF- α (Studi In Vivo Pada Tikus Jantan Galur Wistar Yang Diberi Diet Tinggi Kolesterol)

Latar Belakang: Diet tinggi kolesterol terbukti menginduksi TNF- α dan meningkatkan profil lipid dalam darah sehingga memicu stres oksidatif. NAC mencegah stres oksidatif karena berperan sebagai antioksidan yaitu bekerja dengan memecah protein tiolat menjadi tiol bebas yang meningkatkan sintesis GSH. Tujuan untuk mengetahui pengaruh pemberian N-acetylcysteine (NAC) terhadap penurunan kadar kolesterol total, LDL, trigleserida, dan TNF- α serta peningkatan kadar HDL pada tikus jantan galur wistar yang diberi diet tinggi kolesterol.

Metode: *True eksperimental*, rancangan penelitian *post test only control group design* menggunakan sampel 24 ekor tikus wistar jantan dibagi 4 kelompok secara random. Penelitian selama 16 hari yaitu K1 diberi pakan standar, K2 diberi pakan hiperkolestrolemia, K3 diberi pakan hiperkolestrolemia 7 hari dan NAC dosis 7,2 mg/200 grBB 9 hari peroral, K4 diberi pakan hiperkolestrolemia 7 hari dan NAC dosis 10,8 mg/200 grBB 9 hari peroral. Data dianalisis menggunakan *Shapiro Wilk* dan *Levene Test*, ($p > 0.05$) menggunakan *One Way Anova* dan *Post Hoc LSD*.

Hasil: Uji *post hoc* LSD menunjukkan K4 lebih efektif dalam menurunkan kolesterol total, LDL, trigliserida, dan TNF- α serta peningkatan HDL, kemudian disusul oleh K3.

Kesimpulan: N-acetylcysteine menurunkan kadar kolesterol total, trigliserida, LDL, dan TNF- α serta meningkatkan kadar HDL.

Kata kunci: N-acetylcysteine, Kolesterol total, trigliserida, LDL, HDL, TNF- α

ABSTRACT

The Influence of Administering *N-Acetylcysteine* (NAC) on lipid profile and TNF- α levels in vivo study on High Cholesterol Diet-Induced Wistar male rats

Introduction: The high-cholesterol diet proves to induce TNF- α and increase the accumulation of lipid profile in blood so triggers oxiditional stress. NAC prevents the oxiditive stress from playing antioxide as an antioxidant is working with breaking tiolats protein into a free tiol that enhances the GSH synthesis.

Objective: To prove the influence of N-acetylcysteine's gift to decrease total cholesterol , LDL, trigleserida, and TNF- α levels and increase HDL levels on high-cholesterol rats.

Methods : True experimental, post test only control group design research used a sample of 24 male Wistar rats divided randomly into 4 groups. The study was for 16 days, namely K1 was given standard feed, K2 was given hypercholestrolemia feed, K3 was given 7 days hypercholestrolemia feed and NAC was given a dose of 7.2 mg / 200 grBB 9 days orally, K4 was given 7 days hypercholestrolemia feed and NAC was given a dose of 10.8 mg / 200 grBB 9 days orally. Datas were analyzed using the *Shapiro Wilk* and *Levene Test*, ($P > 0.05$) using *One Way Anova* and *Post Hoc LSD*.

Results: *Post hoc LSD* tests indicate K4 effective significantly P.05 in lowering total cholesterol, LDL, triglycerida, and TNF- α and then followed by K3.

Conclusion: N-acetylcssteine lowered total cholesterol , triglycerida, LDL, and TNF- α levels and increased HDL levels

Key words: N-acetylcysteine, total cholesterol, triglycerides, LDL, HDL, TNF- α