

ABSTRAK

Latar Belakang: Sindrom metabolik merupakan gejala yang ditandai oleh obesitas sentral. Peningkatan obesitas sentral menunjukkan adanya peningkatan kadar TNF- α yang di sekresi jaringan adiposa dan membentuk c-reative protein (CRP) di hati. Selain itu c-reative protein (CRP) memudahkan terbentuknya sel busa dari LDL. Isoflavon merupakan senyawa bioaktif sebagai antioksidan melalui dua cara yaitu mendonorkan ion hydrogen dan sebagai scavenger.

Tujuan: penelitian untuk mengetahui . pengaruh pemberian isoflavon secara oral terhadap Kadar TNF α , C-reative protein (CRP) dan Jumlah Sel Busa pada tikus jantan sindrom metabolik.

Metode: Penelitian ekperimental dengan desain penelitian *post test only control grup design*. Jumlah sampel 18 ekor tikus jantan wistar, dibagi menjadi 3 kelompok. Kelompok kontrol tikus sindrom metabolik diberi aquades 0,5 cc, kelompok perlakuan tikus sindrom metabolik diberi isoflavon oral dosis 750mg/gBB tikus/hari selama 2 minggu dan 4 minggu. Pemberian isoflavon dilakukan selama 2 minggu dan 4 minggu kemudian pada hari ke 29 di obervasi. Kadar TNF α , C-reative protein (CRP) di ukur menggunakan metode ELISA dan jumlah sel busa di ukur dengan perwanaaan HE.

Hasil: analisa data *one way anova* bahwa kadar TNF α , C-reative protein (CRP) , dan jumlah sel busa ada perbedaan secara signifikan $P < 0,05$ pada kelompok kontrol, perlakuan I , dan perlakuan 2. Kemudian dilanjutkan dengan *Post Hoc LSD* menunjukkan bahwa TNF α , C-reative protein (CRP) , dan jumlah sel busa ada perbedaan secara signifikan $P < 0,05$ dan kelompok P2 lebih rendah dibandingkan kelompok P1 dan kelompok kontrol.

Kesimpulan: Pemberian isoflavon secara oral dengan dosis 750mg/gBB tikus/hari selama 4 minggu mampu menurunkan Kadar TNF α , C-reative protein (CRP) dan Jumlah Sel Busa pada tikus jantan sindrom metabolik.

Kata kunci : sindrom metabolik, isoflavon, kadar TNF-a, c-reative protein (CRP), jumlah sel busa

ABSTRACT

Background: Metabolic syndrome is a symptom characterized by central obesity. Increased central obesity shows an increase in TNF- α Background: Metabolic syndrome is a symptom characterized by central obesity. Increased central obesity shows an increase in TNF- α levels which are secreted in adipose tissue and form a c-reactive protein (CRP) in the liver. In addition, c-reactive protein (CRP) facilitates the formation of foam cells from LDL. Isoflavones are bioactive compounds as antioxidants in two ways, namely donating hydrogen ions and as a scavenger. **Objective:** research to find out. the effect of oral administration of isoflavones on levels of TNF α , C-reactive protein (CRP) and the number of foam cells in male metabolic syndrome mice. **Method:** Experimental research with a post-test only control group design study design. The number of samples was 18 male Wistar rats, divided into 3 groups. The metabolic syndrome rat control group was given 0.5 cc Aquades, the metabolic syndrome rat treatment group was given an oral isoflavone dose of 750mg / gBB of mice/day for 2 weeks and 4 weeks. Giving isoflavones carried out for 2 weeks and 4 weeks later on the 29th day at observes. TNF levels of α , C-reactive protein (CRP) were measured using the ELISA method and the number of foam cells was measured by HE. **Results:** analysis of one way ANOVA data that the levels of TNF α , C-reactive protein (CRP), and the number of foam cells were significantly different $P < 0.05$ in the control group, first treatment, and second treatment. Then proceed with Post Hoc LSD showed that TNF α , C-reactive protein (CRP), and the number of foam cells were significantly different $P < 0.05$ and the P2 group was lower than the P1 and control groups. **Conclusion:** Oral administration of isoflavones at a dose of 750 mg / gBB of mice/day for 4 weeks can reduce TNF levels of α , C-reactive protein (CRP) and the number of foam cells in male metabolic syndrome mice.

Keywords: metabolic syndrome, isoflavones, TNF- α levels, c-reactive protein (CRP), foam cell counts