PENGARUH PEMBERIAN KECAMBAH KACANG KEDELAI *(Glycine Max)* TERHADAP PROFIL LIPID DAN PERLEMAKAN HATI

STUDI EXPERIMENTAL PADA TIKUS *Sprague Dawley* HIPERKOLESTEROLEMIK

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ABSTRAK

Latar Belakang : Penyakit perlemakan hati non alkohol terjadi karena asupan dan sintesis asam lemak bebas lebih banyak dibandingkan proses oksidasi. Kecambah kacang kedelai *(Glycine Max)* dapat meningkatkan sintesis antioksidan endogen dalam tubuh, menurunkan kadar kolesterol total, kolesterol LDL dan trigliserida serta meningkatkan kadar kolesterol HDL sehingga menghambat perlemakan hati.

Tujuan: Untuk membuktikan pengaruh pemberian kecambah kacang kedelai *(Glycine Max)* terhadap profil lipid dan perlemakan hati pada tikus *Sprague Dawley* hiperkolesterolemik.

Metode penelitian : *True experimental* dengan menggunakan *post test only control group design.* Penelitian menggunakan 30 ekor tikus, dibagi menjadi 5 kelompok yaitu kelompok kontrol negatif (K-) diberi pakan standar, kontrol positif (K_+) hiperkolesterolemik, perlakuan 1 (X_1) hiperkolesterolemik dengan kecambah kedelai 0.53 g/hari, perlakuan 2 (X_2) hiperkolesterolemik dengan kecambah kedelai 1.06 g/hari, perlakuan 3(X_3) hiperkolesterolemik dengan kecambah kedelai 2.12 g/hari.

Hasil Penelitian : Perlakuan diberikan selama 4 minggu menunjukan penurunan kadar kolesterol total, kolesterol LDL, trigliserida dan peningkatan kolesterol HDL. Dosis pemberian kecambah kacang kedelai 2.12 g/hari merupakan dosis yang paling efektif dengan nilai signifikasi $p<0.05$. Hasil pemeriksaan histopatologi menunjukan tidak terjadi steatosis tetapi terbentuknya degenerasi ballooning. Degenerasi ballooning tersebut terjadi pada kelompok K-, X_1, X_2 dan X_3. Degenerasi ballooning adalah pembengkakan hepatosit akibat gangguan membran hepatosit, hasil uji korelasi profil lipid dan degenerasi ballooning ada hubungan secara bermakna $p<0.05$.

Kesimpulan : Ada pengaruh pemberian kecambah kacang kedelai terhadap profil lipid tikus *Sprague Dawley* hiperkolesterolemik. Pada kelompok perlakuan hiperkolesterolemik belum terbentuk steatosis tetapi terjadi degenerasi ballooning.

Kata kunci : perlemakan hati non alkohol, kecambah kedelai, profil lipid, perlemakan hati, degenerasi ballooning

THE EFFECT OF SOYBEAN SPROUT (Glycine Max)
TO LIPID PROFILE AND FATTY LIVER
EXPERIMENTAL STUDY OF *Sprague Dawley RATS* HYPERCHOLESTEROLEMIC

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ABSTRACT

Background : Non Alcoholic Fatty Liver Disease occurs when the intake and free fatty acid synthesis occurs more frequently than its antioxidant and resecretion in the blood. The soybean sprouts *(Glycine Max)* will be increasing synthesis of endogenous antioxidant in body, than decrease total cholesterol, LDL cholesterol and trigliserida together with increase HDL cholesterol until inhibit could be formed fatty liver of *Sprague Dawley* rats hypercholesterolemic.

Objective : The aim of this study was to prove effect of soy bean sprout (*Glycine Max*) to lipid profile and fatty liver.

Methods : This was a true experimental study with the post-test only control group design. This study was done on 30 male *Sprague Dawley* rats were divided into 5 groups: The control group negative (K-) was given standart diet, group control positive (K_+) was given hipercholesterol diet, the treated group 1 (X_1), Group 2 (X_2) and group 3 (X_3) are hypercholesterolemic rats was given a standar diet and soybean sprout 0.53 g, 1.06 g, 2.12 g.

Result: After 4 weeks of treatment showed that decrease total cholesterol, LDL cholesterol and trigliserida and increase HDL cholesterol. The provision dose of soybean sprouts 2.12 g per day dose is a dose a which most effective indicated presence of significant difference ($p<0.05$). Histopathological examination showed nothing steatosis (fatty liver) but could be formed ballooning degeneration. The ballooning degeneration to consist of group K-, X_1,X_2 and X_3. Ballooning degeneration is swelling hepatosit resulting from disruption hepatosit membrane, the colerrelation lipid profile and degenaration ballooning showed significant difference ($p<0.05$).

Conclusion : The effect soybean sprout (*Glycine Max*) proven to lipid profile of *Sprague Dawley* rats hipercolesterolemic and the groups hypercholesterolemic histhopathological examination showed not yet formed steatosis (fatty liver) but could be formed degeneration ballooning.

Keywords: non-alcoholic fatty liver, soybean sprout, lipid profile, fatty liver, ballooning degeneration.