

INTISARI

Biji labu kuning (*Cucurbita moschata*) mengandung senyawa fenolik, alkaloid, tannin, flavonoid, terpenoid, saponin dan kukurbitasin yang memiliki efek antioksidan, antibakteri, antihipertensi, kardioprotektif, antidiabetes, serta dapat menurunkan kadar LDL (*Low Density Lipoprotein*). Penelitian ini bertujuan untuk mengetahui efek toksik ekstrak biji labu kuning secara subkronik terhadap histologi hepar dan ginjal.

Metode penelitian ini adalah eksperimental. Biji *C. moschata* diekstraksi dengan metode maserasi menggunakan etanol 70%. Sebanyak 24 ekor mencit jantan 3 bulan dibagi menjadi 4 kelompok, yaitu kelompok kontrol, dosis 400 mg/kgBB (CM 400), dosis 600 mg/kgBB (CM 600), dan dosis 900 mg/kgBB (CM 900). Ekstrak biji *C. moschata* diberikan secara peroral selama 30 hari. Pada hari ke 31, seluruh mencit dikorbankan dan diambil organ hepar dan ginjal lalu preparat di cat HE. Pengamatan gambaran histologi hepar meliputi degenerasi parenkim, degenerasi hidropik, dan nekrosis. Pengamatan gambaran histologi ginjal meliputi perdarahan dan jumlah sel PMN (*Polymorfo nuclear*). Data skor dianalisis menggunakan Kruskal-Wallis dan dilanjutkan dengan Mann-Whitney dengan taraf kepercayaan 95%.

Hasil rerata skor kerusakan hepar kelompok kontrol: $1,47 \pm 0,81$; CM 400: $2,1 \pm 0,45$; CM 600: $2,71 \pm 0,05$; dan CM 900: $3,14 \pm 0,03$. Hasil rerata skor perdarahan ginjal kelompok kontrol: $0,71 \pm 0,16$; CM 400: $1,41 \pm 0,22$; CM 600: $1,15 \pm 0,12$; dan CM 900: $1,43 \pm 0,13$. Hasil rerata skor jumlah PMN ginjal kelompok kontrol: $0,31 \pm 0,54$; CM 400: $1,33 \pm 0,62$; CM 600: $0,71 \pm 0,79$; dan CM 900: $1,13 \pm 0,26$. Hasil nilai uji statistik kerusakan hepar, perdarahan ginjal, dan jumlah PMN ginjal menunjukkan bahwa terdapat perbedaan signifikan antara kelompok kontrol dengan kelompok perlakuan yang diberi ekstrak biji *C. moschata*. Ekstrak biji labu kuning (*Cucurbita moschata*) secara subkronik menimbulkan efek toksik terhadap perubahan histologi hepar dan ginjal mencit. Perubahan tersebut terlihat sangat nyata seiring kenaikan dosis yang diberikan..

Kata kunci : *Cucurbita moschata*, toksisitas subkronis, histologi hepar dan ginjal

ABSTRACT

Subchronic toxicity test is a test of pharmacological activity of a compound to detect toxic effects and the safety level of a substance in the biological (body) system in the short term. Seeds of pumpkin (*Cucurbita moschata*) contained phenolic, alkaloids, terpenoids, saponin and cucurbitacin compounds that gave antioxidant, antibacterial effects, and can help lower LDL (*Low Density Lipoprotein*) concentration. This study aims to determine toxic effects on subchronic administration that may be generated from pumpkin seeds extract to microscopic images of the liver and kidneys.

This research using experimental method. *C. moschata* seeds were extracted by maceration method with 70% ethanol. The subjects were 24 male mice, 3 months, divided into 4 groups, namely control group, doses 400 mg/kgBB (CM 400), doses 600 mg/kgBB (CM 600), and doses 900 mg/kgBB (CM 900). Administration of *C. moschata* seed extract for 30 days. On the 31st day, all the mice were dissected and the liver and kidneys were taken and then fixed with 10% formalin. The observed parameters were histology of the liver and kidneys. Histologic features of the liver include parenchymal degeneration, hydropic degeneration, and necrosis. The histologic features of the kidneys include bleeding and the number of PMN (*Polymorpho nuclear*) cells. The histologic observation data was transformed into scores and analyzed using ANOVA, Kruskal-Wallis, and continued with Mann-Whitney with 95% of confidence level.

The result of statistical test shows that the comparison between control, doses 400 mg/kgBB, doses 600 mg/kgBB, and 900 mg/kgBB groups are $p < 0.05$ which means there are significant differences. The conclusion of this research is the extract of pumpkin seed (*Cucurbita moschata*) subchronically have a toxic effect on the histology changes of liver and kidney mice. The changes look very real as the dose is given.

Keywords: *Cucurbita moschata*, subchronic toxicity, liver and kidney histology