

INTISARI

Tujuan penelitian ini adalah untuk membuktikan adanya toksisitas akut sari wortel (*Daucus carota L.*) dengan kajian terhadap organ lambung, hati, dan ginjal terhadap mencit putih betina galur Balb/C.

Penelitian ini merupakan jenis penelitian eksperimental murni dengan rancangan acak pola searah. Hewan uji yang digunakan adalah mencit betina galur Balb/C dengan umur 2-3 bulan dan berat badan 20-35 gram. Mencit sejumlah 25 ekor dibagi secara acak menjadi 4 kelompok peringkat dosis dan 1 kelompok kontrol. Kemudian diberikan sari wortel dengan dosis berturut-turut 9,76 ml/kgBB; 11,6 ml/kgBB; 13,92 ml/kgBB; and 16,7 ml/kgBB. Evaluasi efek toksik dilakukan selama 3 jam setelah pemberian sari wortel dan evaluasi kematian hewan uji dilakukan 24 jam setelah pemberian sari wortel dan 14 hari setelahnya. Sebelum hewan uji dikorbankan dan diambil organnya, diambil dulu darahnya dari sinus orbitalis untuk pemeriksaan aktivitas SGPT dan kadar serum kreatinin (untuk mengamati wujud efek toksik secara biokimiawi) dan kemudian dibedah dan diambil organ lambung, hati, dan ginjal untuk dilakukan pemeriksaan histopatologi (untuk pemeriksaan wujud efek toksik secara struktural).

Hasil penelitian didapat bahwa LD₅₀ semu adalah 16,7 ml/kgBB. Pemberian sari wortel menyebabkan perubahan sikap terhadap pengamat, beringas, dan takikardi. Hasil histopatologi menunjukkan radang pada organ lambung, dan ginjal yang bersifat reversibel, serta nekrosis pada organ hati (pada 24 jam setelah pemberian). Hasil analisis darah menunjukkan peningkatan aktivitas SGPT secara bermakna melalui uji statistik dengan tingkat kepercayaan 95%. Tetapi tidak menyebabkan peningkatan kreatinin serum secara signifikan.

Keywords : sari wortel, LD₅₀, lambung, hati, ginjal

Abstract

The goal of this research was to assess the potency of acute toxicity, evaluate clinical symptoms, evaluation spectrum of toxic effect, structural damage of gastric, liver, and kidney, and biochemistry damage of liver and kidney of animal test after administration of carrot extract to Balb/C female mice.

The research used completely randomized design. The animal test was Balb/C female mice, healthy, age 2-3 months, and body weight 20-35 gram. Twenty five mice were grouped into 5 groups, including 1 control group and 4 experimental groups. The dosage for each group were 9,76 ml/kg; 11,6 ml/kg; 13,92 ml/kg; and 16,7 ml/kg of body weight, respectively. Evaluation of the toxic symptoms of animal was done for 3 hours after carrot extract administration and evaluation of death was done for 24 hours and 14 days. Before the animal test was killed, blood of the mice were collected from sinus orbitalis to analyze for SGPT activity to check liver damage and creatinin serum to check kidney damage. After that, underwent surgery to take the gastric, liver, and kidney for histopathologic examination.

The test resulted bias LD₅₀ of carrot extract using Balb/C female mice was 16,7 ml/kg of body weight. Administration of the carrot extract caused alterations of animal behaviours including shows activeness.

Histopathology examination shows inflammation of gastric and kidney after 24 hours and inflammatory with necrosis for liver after 24 hours. But, the gastric, liver, and kidney are better after 14 days. Blood analysis shows that carrot extract caused liver damage in dose 16,7 ml/kg (SGPT activity) with 95% confidence one way anova. But, it's not significant for kidney damage that shows from the creatinin serum.

Keywords : carrot extract, LD₅₀, gastric, liver, kidney