

ABSTRACT

Pacing (*Costus speciosus* (Koen.) J.E. Smith) empirically used as herbal contraceptive. The use of pacing in the long term is not known level of toxicity. This study was conducted to determine the toxicity of ethanolic extract of pacing herb (EEHP) upon hematologic and histopathologic parameter.

Method used in this sub-chronic toxicity research comply with OECD 408 method. 50 male mice BALB/c divided into 4 groups, consisting of CMC Na 0,5% control group, 275 mg/kgBB dosage group, 550 mg/kgBB dosage group, and 1100 mg/kgBB dosage group. Each group had 10 male mice except the control group and 1100 mg/kgBB dosage group that were added with 5 male mice as a satellite group. The observation was conducted upon the clinical symptoms, body weight, food and fluid intake, hematologic parameter (leukocyte, erythrocyte, hemoglobin, MCV, MCH, MCHC, platelet, and hematocrit), and histopathologic parameter (liver, lung, kidney, spleen, stomach, heart, intestine, and testis). Data were analyzed statistically using 95% confidence level.

The result showed that EEHP did not result in clinical symptoms and did not affect body weight, food and fluid intake. EEHP at dose 550 and 1100 mg/kg BB reduced the number of leukocyte, hemoglobin, and platelet. EEHP causing histopathological changes on liver and kidney with symptoms of inflammation, fatty degeneration, phospholipid accumulation, and nephrosis. Decreased number of leukocyte, phospholipid accumulation, and nephrosis are irreversible. Decreased number of hemoglobin and platelet, liver inflammation, and liver fatty degeneration are reversible.

Keywords: sub-chronic toxicity, pacing, hematology, histopathology

INTISARI

Pacing (*Costus speciosus* (Koen.) J.E. Smith) secara empiris dimanfaatkan sebagai kontrasepsi herbal. Penggunaan pacing dalam jangka waktu lama belum diketahui tingkat keamanannya. Penelitian ini dilakukan untuk mengetahui ketoksikan ekstrak etanolik herba pacing (EEHP) ditinjau dari parameter hematologi dan histopatologi.

Penelitian menggunakan metode uji toksisitas subkronis yang mengacu pada OECD 408. Sebanyak 50 ekor mencit BALB/c jantan dikelompokkan menjadi 4 yaitu kontrol, dosis I (275 mg/kg BB), dosis II (550 mg/kg BB), dan dosis III (1100 mg/kg BB) masing-masing 10 ekor dan 5 ekor untuk kelompok satelit pada kontrol dan dosis III. Pengamatan yang dilakukan meliputi gejala klinis, bobot badan, asupan pakan, asupan minuman, hematologi (leukosit, eritrosit, hemoglobin, MCV, MCH, MCHC, platelet, dan hematokrit) dan histopatologi (hepar, paru-paru, ginjal, limpa, lambung, jantung, usus, dan testis. Data dianalisis secara statistik dengan taraf kepercayaan 95%.

Hasil penelitian menunjukkan EEHP tidak mempengaruhi gejala klinik, berat badan, asupan pakan dan minuman. EEHP dosis 550 dan 1100 mg/kg BB berpotensi menurunkan kadar leukosit, hemoglobin, dan platelet. EEHP menyebabkan perubahan histopatologi hepar dan ginjal dengan gejala radang, degenerasi melemak, akumulasi fosfolipid, dan nefrosis. Penurunan kadar leukosit, gejala akumulasi fosfolipid hepar, dan nefrosis bersifat ireversibel. Penurunan kadar hemoglobin dan platelet, gejala radang hepar, serta degenerasi melemak hepar bersifat reversibel.

Kata kunci: subkronis, pacing, hematologi, histopatologi