

INTISARI

Rimpang temu mangga (*Curcuma mangga* Val.) dapat digunakan untuk obat gatal-gatal, pencahar, dan kanker. Penggunaan obat harus memperhatikan faktor keamanan salah satu parameternya dari hasil uji toksisitas akut. Penelitian toksisitas akut perasan rimpang temu mangga pada mencit betina dilakukan untuk mengetahui potensi ketoksikan akut, gejala toksik dan spektrum efek toksiknya.

Penelitian ini termasuk penelitian eksperimental murni dengan rancangan acak lengkap pola searah. Enam puluh ekor mencit betina (galur Swiss, umur \pm 2 bulan, 20-25 gram), dibagi 6 kelompok, masing-masing 10 ekor. Kelompok I (kontrol) diberi aquadest (25 g/kgBB). Kelompok II-VI diberi perasan rimpang temu mangga dosis 0,105; 0,464; 2,055; 9,107; dan 40,348 g/kgBB. Perlakuan diberikan sekali secara oral dan diamati selama 14 hari. Pengamatan kuantitatif meliputi perubahan berat badan dan jumlah kematian hewan uji tiap kelompok selama 14 hari. Pengamatan kualitatif meliputi gejala toksik dan pemeriksaan histopatologi. Pada hari ke-14 (akhir masa uji) mencit dikorbankan dan organ paru-paru, lien, usus, hati, lambung, jantung dan ginjal diambil untuk pemeriksaan histopatologi.

Hasil penelitian menunjukkan bahwa harga LD_{50} perasan rimpang temu mangga adalah LD_{50} semu sebesar $> 40,348$ g/kgBB. Potensi ketoksikan akut perasan rimpang temu mangga termasuk kategori praktis tidak toksik. Gejala toksik berupa aktivitas lokomotor turun, kelemahan, lesu, diare, dan dispnea. Hasil pemeriksaan histopatologi menunjukkan kelainan pada hampir semua organ. Usus: erosi epitel, sel piala banyak, sel radang. Paru-paru: penebalan septa. Hati: hiperemi, hemorrhagi, degenerasi hidropik difus, degenerasi melemak. Lambung: erosi epitel mukosa. Lien: daerah pulpa putih kosong. Ginjal: hiperemi dan hemorrhagi. Jantung: normal.

Kesimpulan yang dapat diambil dari penelitian ini adalah harga LD_{50} perasan rimpang temu mangga pada mencit betina adalah LD_{50} semu sebesar $> 40,348$ g/kgBB; gejala toksik berupa aktivitas lokomotor turun, lesu, kelemahan, dispnea, dan diare; efek toksik dilihat dari pemeriksaan histopatologi berupa kelainan pada hampir semua organ pada sebagian besar kelompok dosis.

ABSTRACT

Rhizome of *temu mangga* (*Curcuma mangga* Val.) can be used as antiitching, laxative, and anticancer. Administration of any substances should consider its safety factor determined by series of toxicity test including acute toxicity test. Acute toxicity test of *temu mangga* rhizome juice on female mice was done to obtain its acute toxicity potency, toxic symptoms, and toxic effect spectrum.

This experimental study was conducted by completely randomized design, analyzed by one way statistics. Sixty female mice, Switzerland strain, ± 2 month old. 20-25 g/kgBW, were divided into 6 groups evenly. Group I (control), mice were given with single dose water (25 g/kgBW); Group II to VI, treatment groups, mice were given with single dose of rhizome juice at concentration of 0,105; 0,464; 2,055; 9,107; and 40,348 g/kgBW respectively. The mice were observed quantitatively by calculating the change of body weight and number of death during 14 days; and qualitatively by examining the toxic symptoms and histopathology. After 14 days, the animals were sacrificed and the lung, lien, intestine, stomach, liver, heart, and kidney were taken for histopathological preparation.

The study result showed that the pseudo LD₅₀ was > 40,348 g/kgBW. The juice can be categorized as practically non toxic. The toxic symptoms were decreasing the locomotor activity, weakness, fatigue, diarrhea, and dispnea. Histopathological result showed that almost all organs degenerated. Intestine: epithel erosion and inflamed cells. Lung : thickening septa. Liver: hyperemia, hemorrhage, hidropic diffused and fatty degeneration. Stomach: mucous epithel erosion and inflamed cells. Lien: empty white pulp. Kidney: hyperemia and hemorrhage. Heart: normal.

Conclusion form this study are the pseudo LD₅₀ of *temu mangga* rhizome for female mice was > 40,348 g/kgBW; the toxic symptoms were decreasing the locomotor activity, weakness, fatigue, diarrhea, and dispnea; histopathological result showed that almost all organs degenerated.