

EFEK PEMBERIAN SUBKRONIK EKSTRAK ETANOL DAUN SENDOK (*Plantago major* L.) TERHADAP GAMBARAN HISTOLOGI GINJAL TIKUS PUTIH (*Rattus norvegicus*)

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ABSTRAK

Latar belakang : Daun sendok sebagai obat tradisional diketahui memiliki banyak khasiat. Penggunaan obat tradisional dalam waktu lama berpotensi merusak organ ekskresi utama tubuh salah satunya adalah ginjal

Tujuan : Mengetahui efek pemberian subkronik berbagai dosis ekstrak etanol daun sendok (EEDS) (*Plantago major* L.) terhadap gambaran histologi ginjal tikus putih (*Rattus norvegicus*).

Metode : Metode penelitian ini adalah eksperimental dengan rancangan *post test only with control group*. Dua puluh lima ekor tikus putih jantan dibagi dalam lima kelompok. Kelompok A (kontrol) diberi larutan *carboxymethylcellulose* (CMC), kelompok B (dosis 50 mg/200 gBB), kelompok C (dosis 100 mg/200 gBB), kelompok D (dosis 200 mg/200 gBB), dan kelompok E (dosis 400 mg/200 gBB) diberi EEDS. Semua perlakuan diberikan selama 21 hari dengan aklimatisasi 7 hari sebelumnya. Pada hari ke-29 tikus didekapitasi dan diambil ginjalnya untuk dibuat preparat dengan pewarnaan hematoxilin eosin. Penilaian kerusakan ginjal dilakukan secara semikuantitatif dengan indikator skor nekrosis tubulus proksimal

Hasil : Rerata skor nekrosis tubulus proksimal kelompok kontrol = $3,2 \pm 0,4$, kelompok B = $3,4 \pm 0,5$, kelompok C = $3,8 \pm 0,8$, kelompok D dan E sama yaitu $4,0 \pm 0,7$. Perbedaan rerata skor nekrosis tubulus proksimal ini tidak signifikan secara statistik ($p = 0,222$).

Kesimpulan : Efek pemberian subkronik berbagai dosis EEDS (*Plantago major* L.) pada rentang dosis 50 mg/200 gBB hingga 400 mg/200 gBB tidak menimbulkan toksisitas pada ginjal tikus putih (*Rattus norvegicus*) berdasarkan gambaran histologi berupa nekrosis tubulus proksimal

Kata kunci : daun sendok, subkronik, nekrosis tubulus proksimal, toksisitas

SUBCHRONIC EFFECT OF ADMINISTRATION OF PLANTAIN (*Plantago major* L.) ETHANOL EXTRACTS ON KIDNEY HISTOLOGICAL APPEARANCE IN ALBINO RATS (*Rattus norvegicus*)

Subchronic Toxicity Test

ABSTRACT

Background : Plantain has been known for having many benefits. The longterm use of traditional medicine has the potential to damage the main excretory organs of the body including the kidney.

Objective : Knowing the effect of various doses of plantain (*Plantago major* L.) ethanol extract subchronic administration on the kidney histological appearance of albino rat (*Rattus norvegicus*)

Methods : An experimental study with post test only with control group design was involved twenty five males of albino rats. They were divided into 5 groups (5 each). A as a control group recieved CMC solution, B, C, D and E group recieved plantain ethanol extract of 50 mg/200 gBW, 100 mg/200 gBW, 200 mg/200 gBW and 400 mg/200 gBW respectively. All treatments were given for 28 days including acclimatization for 7 days. At the end of the study, rats were sacrificed to obtain their kidneys for hematoxylin eosin staining. Assessment of kidney histology changes was done semiquantitatively by scoring of proximal tubular necrosis

Results : The mean score of the proximal tubular necrosis control = 3.2 ± 0.4 , group B = 3.4 ± 0.5 , group C = 3.8 ± 0.8 , group D and E are 4.0 ± 0.7 . Differences in mean score proximal tubular necrosis was not statistically significant ($p = 0.222$). **Conclusions** : Subchronic effects of various doses of ethanol extract of plantain (*Plantago major* L) dose 50 mg/200 gBW – 400 mg/200 gBW did not cause renal toxicity in rats (*Rattus norvegicus*) seen from histological form of proximal tubular necrosis.

Keywords: plantain, subchronic, proximal tubular necrosis, toxicity