

**PENGARUH PEMBERIAN EKSTRAK ETANOL AKAR PURWOCENG
(*Pimpinella pruatjan* Molk.) SECARA AKUT TERHADAP GAMBARAN
HISTOLOGI GINJAL TIKUS PUTIH (*Rattus norvegicus*) JANTAN**

Uji Toksisitas Akut

ABSTRAK

Latar belakang: Tanaman purwoceng terutama bagian akar banyak digunakan secara turun temurun untuk meningkatkan vitalitas pria. Uji fitokimia menemukan bahwa purwoceng memiliki kandungan zat lipofilik yang dapat berpotensi toksik terhadap ginjal.

Tujuan: Penelitian ini bertujuan untuk menganalisis pengaruh pemberian ekstrak etanol akar purwoceng (*Pimpinella pruatjan* Molk) secara akut terhadap kerusakan gambaran histologi ginjal pada tikus putih (*Rattus norvegicus*) jantan.

Metode: Metode penelitian ini adalah eksperimental dengan *post test only with control group design*. Tiga ekor tikus putih jantan dibagi dalam lima kelompok perlakuan secara acak. Kelompok A (kontrol) diberi akuades, kelompok B (5 mg/kgBB), kelompok C (50 mg/kgBB), kelompok D (300 mg/kgBB), dan kelompok E (2000 mg/kgBB) diberikan ekstrak etanol akar purwoceng. Semua perlakuan diberikan dalam dosis tunggal per oral. Setelah 24 jam pemberian dosis, tikus diterminasi dan diambil ginjalnya untuk dibuat preparat dengan pewarnaan HE. Kerusakan ginjal dinilai secara semikuantitatif dengan skor nekrosis tubulus proksimal.

Hasil: Rerata skor nekrosis tubulus kelompok A menunjukkan hasil terendah ($4,3 \pm 0,5$). Rerata skor kelompok B, C, D, dan E memiliki rerata yang sama ($4,6 \pm 0,5$). Uji *Kruskal-Wallis* menunjukkan nilai $p > 0,05$.

Kesimpulan: Pemberian ekstrak etanol akar purwoceng berbagai dosis secara akut tidak menimbulkan kerusakan gambaran histologi ginjal tikus putih jantan secara signifikan.

Kata kunci: purwoceng, uji toksisitas akut, nekrosis tubulus, histologi ginjal

**THE EFFECT OF ACUTE ADMINISTRATION OF PURWOCENG
ROOTS ETHANOL EXTRACT (*Pimpinella pruatjan* Molk.) TO KIDNEY
HISTOLOGICAL APPEARANCES IN MALE ALBINO RAT (*Rattus
norvegicus*)**

Acute Toxicity Test

ABSTRACT

Background: Purwoceng roots are used traditionally as a herbal medicine to enhance male vitality. Phytochemical test found that purwoceng contains lipophilic substances that potentially toxic to the kidney.

Objective: The aim of the study was to analyze the effect of acute administration of purwoceng roots ethanol extract to male albino rat kidney histological damage.

Methods: This research was an experimental study using post-test only with control group design. Rats were randomly divided into 5 groups with 3 rats in each group. Group A as a control group received aquadest, group B, C, D, and E were given purwoceng roots ethanol extract of 5 mg/kgBW, 50 mg/kgBW, 300 mg/kgBW, and 2000 mg/kgBW respectively. All treatments were given orally in single dose. In 24 hours after dose administration, rats were all terminated to obtain their kidneys for HE staining. Kidney damage were assessed based on semiquantitative scoring of proximal tubular necrosis.

Results: Mean score of tubular necrosis in group A showed the lowest yield (4.3 ± 0.5). The mean score of group B, C, D, and E had similar mean (4.6 ± 0.5). Kruskal-Wallis test showed the value of $p > 0.05$.

Conclusions: Kidney histological appearances in male albino rat were not damaged significantly after acute administration of various doses of purwoceng roots ethanol extracts.

Keywords: purwoceng, acute toxicity test, tubular necrosis, kidney histology