

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

Uji Toksisitas Subkronik

ABSTRAK

Latar belakang: Daun sendok memiliki senyawa aktif antikanker, antioksidan, serta antiinflamasi. Konsumsi obat herbal peroral dalam waktu lama khususnya bagi penderita kanker dapat menimbulkan kerusakan pada mukosa gaster, maka perlu dilakukan uji toksisitas untuk mengetahui keamanannya.

Tujuan: Penelitian ini bertujuan untuk mengetahui efek pemberian ekstrak etanol daun sendok subkronik terhadap gambaran histologi mukosa gaster tikus putih.

Metode: Metode penelitian yang digunakan adalah eksperimental dengan rancangan *post test only with control group design*. Dua puluh lima ekor tikus putih jantan dibagi dalam lima kelompok. Kelompok A (kontrol) diberi larutan CMC, kelompok B (50 mg/200g berat tikus), kelompok C (100mg/200g berat tikus), kelompok D (200 mg/200g berat tikus), dan kelompok E (400 mg/200g berat tikus) diberikan ekstrak etanol daun sendok. Perlakuan dilakukan selama 21 hari. Pada hari ke 29 setelah aklimatisasi dan perlakuan, tikus didekapitasi dan diambil organ gaster untuk dibuat preparat dengan pewarnaan HE. Penilaian kerusakan gaster dilakukan secara semikuantitatif.

Hasil: Hasil rerata skor kerusakan mukosa gaster kelompok A: $0,48 \pm 0,30$; kelompok B: $0,32 \pm 0,17$; kelompok C: $0,68 \pm 0,17$; kelompok D: $0,40 \pm 0,31$; dan kelompok E: $2,12 \pm 0,64$. Uji *Mann-Whitney* menunjukkan terdapat perbedaan skor kerusakan yang signifikan pada kelompok E dibandingkan dengan kelompok A, B, C dan D ($p < 0,05$).

Kesimpulan: Terdapat kerusakan mukosa gaster pada pemberian ekstrak etanol daun sendok secara subkronis dengan dosis 400mg/200g berat badan tikus.

Kata Kunci: Daun Sendok, Uji Toksisitas, Subkronik, Mukosa Gaster

**THE EFFECT OF SUBCHRONIC PLANTAIN (*Plantago major* L.)
EXTRACT ADMINISTRATION TO WHITE RAT (*Rattus norvegicus*)
GASTER HISTOLOGICAL APPEARANCE**

Subchronic Toxicity Test

ABSTRACT

Background: *Plantain* extract have an active anticancer compounds, antioxidant, and antiinflammation agents. Consumption of herbal medicine in a long time especially for cancer treatment can cause damage on gastric mucosa, therefore it is necessary to test the toxicity in order to determine the safety of *Plantain* extract for gaster.

Objective: The aimed of this study was to observe the effects of subchronic *Plantain* extract administration to white rats (*Rattus norvegicus*) gastric histological appearance.

Method: The methods was an experimental study with post test only with control group design. Twenty five males of white rats was involved and they were divided into 5 groups (5 each). A as a control group, was given CMC, B, C, D and E group were given *Plantain* extract with dose of 50mg/200gBWrat/day, 100mg/200gBWrat/day, 200mg/200gBWrat/day and 400mg/200gBWrat/day. All treatments were given for 21 days after 7 days of acclimatization, in the end of the study rats were determinated to obtain their gasters for HE staining. Assessment for gastric histological changes was done semiquantitatively.

Result: The mean result of gastric mucosal damage in group A was $0,48 \pm 0,30$; B was $0,32 \pm 0,17$; C was $0,68 \pm 0,17$; D was $0,40 \pm 0,31$; and E was $2.12 \pm 0,64$. *Mann-Whitney* test showed there were a significantly diferrences damage between E group (dose 400mg/200gBWrat/day) with another group A, B, C, and D ($p < 0.05$).

Conclusion: The result of this study can be concluded that there was a damage to the gastric mucosal in the subchronic administration of *Plantain* extract at dose of 400mg /200gBW rat/day.

Keywords: *Plantain Extract, Toxicity Test, Subchronic, Gastric Mucosa*