ABSTRAK

PENGARUH PEMBERIAN EKSTRAK DAUN JAMBU AIR *(Syzygium aqueum*) TERHADAP GAMBARAN HISTOPATOLOGI DUODENUM TIKUS PUTIH JANTAN *(Rattus norvergicus)* GALUR WISTAR YANG DIINDUKSI INDOMETASIN

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Latar Belakang : Obat *Non-Steroidal Anti-Inflammatory Drugs* (NSAID) seperti indometasin diketahui memiliki efek samping yang signifikan pada mukosa gastrointestinal, termasuk ulkus duodenum, melalui penghambatan enzim *cyclooxygenase* (COX) dan peningkatan produksi *Reactive Oxygen Species* (ROS). Kandungan flavonoid pada ekstrak daun jambu air yang memiliki sifat antioksidan dapat menghambat pembentukan ROS.
Metode : Penelitian ini berupa eksperimental laboratorik dengan *randomized only control group design* dengan enam kelompok perlakuan: kontrol netral, kontrol negatif (indometasin), kontrol positif (indometasin dan vitamin C), serta tiga kelompok perlakuan ekstrak daun jambu air pada dosis 100 mg/kgBB, 300 mg/kgBB, dan 900 mg/kgBB. Sebanyak 30 ekor tikus diberi perlakuan selama 14 hari. Analisis histopatologi dilakukan menggunakan skoring Barthel Manja.
Hasil : Hasil uji statistik *Mann-Whitney* menunjukkan bahwa pemberian ekstrak daun jambu air secara signifikan menurunkan skor kerusakan mukosa duodenum ($p < 0,05$), pada kelompok perlakuan P2 dan P3 yang diberikan ekstrak 300 mg/KgBb dan 900 mg/KgBb jika dibandingkan dengan kelompok K- yang hanya diberikan indometasin 30 mg/KgBb.
Kesimpulan : Ekstrak daun jambu air *(Syzygium aqueum)* memiliki efek protektif terhadap kerusakan epitel mukosa duodenum tikus putih jantan *(Rattus Norvergicus)* jantan galur Wistar yang diinduksi indometasin.

Kata Kunci: Daun jambu air, *Syzygium aqueum*, NSAID, ulkus duodenum, flavonoid, antioksidan.

ABSTRACT

THE EFFECT OF WATER APPLE LEAF EXTRACT (*Syzygium aqueum*) ON THE HISTOPATHOLOGY OF THE DUODENUM IN MALE WHITE RATS (*Rattus norvergicus*) OF THE WISTAR STRAIN INDUCED BY INDOMETHACIN

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Background: Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) such as indomethacin are known to cause significant adverse effects on gastrointestinal mucosa, including duodenal ulcers, by inhibiting cyclooxygenase (COX) enzymes and increasing the production of Reactive Oxygen Species (ROS). The flavonoid content in water apple leaf extract, with its antioxidant properties, may inhibit ROS formation.
Method: This laboratory-based experimental study employed a randomized only control group design with six treatment groups: neutral control, negative control (indomethacin), positive control (indomethacin and vitamin C), and three groups treated with water apple leaf extract at doses of 100 mg/kgBW, 300 mg/kgBW, and 900 mg/kgBW. A total of 30 male rats received treatment for 14 days, followed by histopathological analysis using the Barthel Manja scoring system.
Results: Mann-Whitney statistical analysis showed that water apple leaf extract significantly reduced duodenal mucosal damage scores ($p < 0.05$) in treatment groups P2 and P3 (300 mg/kgBW and 900 mg/kgBW, respectively) compared to the K- group, which received only 30 mg/kgBW of indomethacin.
Conclusion: Water apple leaf extract (*Syzygium aqueum*) exhibits protective effects on the duodenal mucosal epithelium of male white rats (*Rattus norvergicus*) of the Wistar strain induced by indomethacin.

Keywords: Water apple leaf, *Syzygium aqueum*, NSAIDs, duodenal ulcer, flavonoids, antioxidants.