

ABSTRAK

AKTIVITAS GASTROPROTEKTIF EKSTRAK ETANOL LENGKUAS (*Alpinia galanga*) DAN KUNYIT (*Curcuma longa*) BERDASARKAN PH DAN LESI MUKOSA LAMBUNG TIKUS YANG DIINDUKSI ETANOL-HCL

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Latar Belakang : *Gastric ulcer* yang disebabkan etanol-HCl menyebabkan kerusakan mukosa lambung. Lengkuas dan kunyit berpotensi sebagai gastroprotektif. Senyawa yang memiliki aktivitas gastroprotektif yaitu *l'asetoxy chavikol acetate* dan kurkumin. Penelitian ini bertujuan untuk mengetahui aktivitas gastroprotektif dari kombinasi ekstrak etanol lengkuas dan kunyit dibanding ekstrak tunggalnya berdasarkan parameter pH dan lesi mukosa lambung.

Metodologi : Penelitian ini menggunakan 20 ekor tikus wistar jantan yang dibagi menjadi 5 kelompok, masing-masing diberikan ranitidin 10mg/200gBB, Tween 80 1%, ekstrak etanol lengkuas, kunyit dan kombinasi 100mg/200gBB yang diberikan secara peroral selama 6 hari. Pada hari ke-7, semua kelompok diinduksi etanol-HCl (1:1) 0,2 ml/25grBB. Empat jam kemudian tikus dikorbankan dan dibedah, lalu diambil lambungnya. Pengukuran pH dilakukan menggunakan pH meter digital. Kemudian diukur panjang lesi menggunakan jangka sorong dan dilakukan skoring lesi serta perhitungan indeks ulkus dan rasio kuratif. pH dan lesi dianalisis dengan uji statistik Shapiro-Wilk, dilanjutkan uji ANOVA untuk data pH dan Kruskal-Wallis serta uji Mann-Whitney untuk data skor lesi, indeks ulkus dan rasio kuratif.

Hasil Penelitian : Kelompok negatif, ranitidin, lengkuas, kunyit dan kombinasi memiliki nilai pH masing-masing sebesar 2,18; 2,92; 2,60; 2,43; 2,40 serta total skor lesi masing-masing sebesar 10; 7; 8; 7; 8. Sementara indeks ulkus masing-masing kelompok sebesar 2,5; 1,75; 2; 1,75; 2, diikuti rasio kuratif 0%; 30%; 20%; 30%; 20%. Kombinasi ekstrak menunjukkan perbaikan pH, skor lesi, indeks ulkus dan rasio kuratif dibanding kontrol negatif, namun tidak lebih baik dibanding ekstrak tunggalnya.

Kesimpulan : Efek gastroprotektif kombinasi ekstrak lengkuas dan kunyit tidak lebih baik dibandingkan ekstrak tunggalnya berdasarkan parameter pH dan lesi mukosa lambung tikus.

Kata Kunci : Lengkuas, kunyit, pH, lesi mukosa, gastroprotektif.

ABSTRACT

GASTROPROTECTIVE ACTIVITY OF ETHANOL EXTRACT OF GALANGAL (*Alpinia galanga*) AND TURMERIC (*Curcuma longa*) BASED ON PH AND THE GASTRIC MUCOSAL LESIONS INDUCED BY ETHANOL-HCL IN RAT

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Background: *Gastric ulcers* caused by ethanol-HCl cause gastric mucosal damage. Galangal (*Alpinia galanga*) and turmeric (*Curcuma longa*) have potential gastroprotective activity. Compounds that have gastroprotective activity are *l'asetoxy chavicol acetate* and curcumin. The purpose of this study to determine the gastroprotective activity of a combination of galangal and turmeric ethanol extracts compared to the single extract based on pH parameters and gastric lesions.

Methodology: This study used 20 male Wistar rats, which were divided into 5 groups. Respectively was given ranitidine 10mg/200gBW, Tween 80 1%, ethanol extract of galangal, turmeric and a combined 100mg/200grBW. All groups were given treatment orally for 6 days. On the 7th day, all groups were induced ethanol-HCl (1:1) 20 ml/25grBW. Four hours later the rat was sacrificed and dissected and taken the gastric. pH measurements use a digital pH meter. Then the length of the lesion was measured using calipers and scoring of the lesion and the calculation of the ulcer index and curative ratio. pH and lesions were analyzed by Shapiro-Wilk statistical test, followed by ANOVA test for pH and Kruskal-Wallis data and Mann-Whitney test for lesion score data, ulcer index, and curative ratio.

Result: The negative group, ranitidine, galangal, turmeric, and the combination had a pH value of 2.18; 2.92; 2.60; 2.43; 2.40 and the total score of the lesions was 10; 7; 8; 7; 8. While the ulcer index for each group is 2.5; 1.75; 2; 1.75; 2, followed by a curative ratio of 0%; 30%; 20%; 30%; 20% The extract combination showed improvement in pH, lesion score, ulcer index, and curative ratio compared to negative control, but no better than the single extract.

Conclusions : Gastroprotective effects a combination of galangal and turmeric ethanol extract are no better than their single extract based on pH parameters and gastric lesions.

Keywords : Galangal, turmeric, pH, gastric lesion, gastroprotective.