

ABSTRACT

THE EFFECT OF KITOLOD LEAVES EXTRACT ON CONJUNCTIVAL TISSUE HISTOPATHOLOGY IN WISTAR RATS MODEL OF CONJUNCTIVITIS

By

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Background: The content of secondary metabolites in kitolod leaves has antimicrobial, anti-inflammatory and antioxidant activities, which in in vitro study have been shown that it can inhibit the growth of *Staphylococcus aureus* bacteria. Thus far, there had not any researches been done yet about the effect of kitolod leaves in in vivo study.

Method: This research is an experimental study with a post test only control design. The research was conducted for 15 days on 25 Wistar rats that randomly divided into 5 groups. The groups are K- (aquades 2 drops 4 times a day), K+ (chloramphenicol 0,5% 2 drops 4 times a day), P1, P2, dan P3 (Kitolod leaves extract with some concentration, there are 37,5%; 75%; and 150% that was administered 2 drops for 4 times a day). The dependent variable of this research was the hitolopathological appearance of the rat's conjunctival.

Results: The highest number of neutrophils occurred in group P1 (410), followed by K-, P2, K+ and P3 (343, 340, 263, and 261). Analysis using Kruskal-Wallis showed p value = 0,023 ($p < 0,05$). Post Hoc Mann-Whitney test showed a significant differences between K+ vs P1, P1 vs P2, and P1 vs P3 ($p < 0,05$).

Conclusion: There is an effect of kitolod leaves on conjunctival tissue histopathology in Wistar rats model of conjunctivitis.

Keywords: Conjunctivitis, kitolod leaves, neutrophlis, *Staphylococcus aureus*

ABSTRAK

PENGARUH PEMBERIAN EKSTRAK DAUN KITOLOD TERHADAP GAMBARAN HISTOPATOLOGI JARINGAN KONJUNGTIVA PADA TIKUS WISTAR MODEL KONJUNGTIVITIS

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Latar Belakang: Kandungan metabolit sekunder pada daun kitolod memiliki aktivitas antimikroba, antiinflamasi, dan antioksidan yang secara *in vitro* terbukti dapat menghambat pertumbuhan bakteri *Staphylococcus aureus*. Sejauh ini belum terdapat penelitian mengenai pengaruh pemberian daun kitolod secara *in vivo*.

Metode: Penelitian eksperimental dengan rancangan *post test only control design*. Penelitian dilakukan selama 15 hari menggunakan 25 ekor tikus yang terbagi ke dalam 5 kelompok, K- (akuades 2 tetes 4 kali sehari), K+ (kloramfenikol 0,5% 2 tetes 4 kali sehari), P1, P2, dan P3 (ekstrak daun kitolod dengan konsentrasi 37,5%; 75%; dan 150% diberikan sebanyak 2 tetes 4 kali sehari). Variabel dependen penelitian ini adalah gambaran histopatologi jaringan konjungtiva tikus.

Hasil: Jumlah sebukan neutrofil tertinggi terdapat pada kelompok P1 (410), diikuti oleh kelompok K-, P2, K+, dan P3 (343, 340, 263, dan 261). Uji *Kruskal-Wallis* didapatkan nilai $p=0,023$ ($p<0,05$). Uji *Post Hoc Mann-Whitney* menunjukkan adanya perbedaan bermakna antara K+ dengan P1, P1 dengan P2, dan P1 dengan P3 ($p<0,05$).

Simpulan: Terdapat pengaruh pemberian ekstrak daun kitolod terhadap gambaran histopatologi jaringan konjungtiva tikus Wistar model konjungtivitis.

Kata Kunci: Daun kitolod, konjungtivitis, neutrofil, *Staphylococcus aureus*