

INTISARI

Penyembuhan luka gingiva adalah respon fisiologis untuk mengembalikan integritas struktur dan fungsi jaringan yang rusak. Pada fase inflamasi proses penyembuhan luka, terdapat infiltrasi neutrofil yang berfungsi memfagositosis bakteri patogen dan jaringan nekrotik. Penyembuhan luka lebih optimal dengan pemberian obat antiinflamasi. Daun kersen mengandung flavonoid, tanin, dan saponin. Flavonoid berfungsi sebagai antiinflamasi dan antibakteri. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi gel ekstrak daun kersen 20% terhadap infiltrasi sel neutrofil pada proses penyembuhan luka gingiva tikus Wistar.

Tikus Wistar jantan berjumlah 27 ekor, diberi perlakuan pada gingiva labial gigi incisivus sentralis mandibula menggunakan *punch biopsy* berdiameter 3 mm. Subjek dibagi menjadi 3 kelompok, yaitu kelompok perlakuan (gel ekstrak daun kersen 20%), kontrol positif (gel Aloclair), dan kontrol negatif (gel CMC-Na 2%). Preparat histologis dibuat dengan pewarnaan Hematoksilin-Eosin. Pengamatan jumlah sel neutrofil dilakukan pada hari ke-1, 3, dan 5 menggunakan mikroskop cahaya perbesaran 400x dilengkapi *OptiLab viewer*[®] dan *Image Raster software*. Hasil penelitian dianalisis menggunakan uji *Two-way ANOVA* dan *Post Hoc LSD*.

Hasil penelitian menunjukkan jumlah sel neutrofil hari ke-1 pada kelompok perlakuan lebih rendah dibandingkan kontrol. Hasil uji *Two-way ANOVA* berdasarkan kelompok perlakuan, waktu pengamatan, dan interaksi antara kelompok dengan waktu pengamatan menunjukkan nilai signifikan ($p < 0,05$). Hasil uji *Post Hoc LSD* menunjukkan perbedaan bermakna ($p < 0,05$) jumlah neutrofil pada hari ke-1 antara kelompok perlakuan dengan kontrol positif maupun negatif. Kesimpulan penelitian ini adalah aplikasi gel ekstrak daun kersen (*Muntingia calabura* L.) 20% dapat menurunkan infiltrasi sel neutrofil secara bermakna pada hari ke-1 proses penyembuhan luka gingiva tikus Wistar.

Kata kunci : daun kersen, penyembuhan luka gingiva, neutrofil

ABSTRACT

Gingival wound healing is a physiological response to restore the structural integrity and function of damage tissue. In the inflammatory phase of wound healing process, neutrophils infiltration had functions to phagocyte pathogenic bacteria and necrotic tissue. Wound healing process will be optimal with antiinflammatory drugs. Muntingia calabura leaves contains flavonoid, tannin, and saponnin. Flavonoid had functions as antiinflammatory and antibacteria. This study aimed to determine the effect of 20% Muntingia calabura leaves gel extract application on neutrophil cells infiltration of Wistar rat gingival wound healing.

Twenty seven male Wistar rats, were given injury on the labial gingiva just below the centralis incisivus teeth of mandible using 3 mm punch biopsy. The Subjects were randomly divided into three groups, consist of treatment group (20% Muntingia calabura leaves gel extract), positive control group (Aloclair gel), and negative control group (2% CMC-Na gel). Histological slides were made with Hematoxylin-Eosin (HE) staining. Neutrophil counts were observed on day 1, 3, and 5 by using light microscope under 400x magnification which was supported with OptiLab viewer[®] and Image Raster software. The experimental results were analyzed with Two-way ANOVA and Post Hoc LSD test.

Experimental results showing that neutrophil counts on day 1 in the treatment group were lower than control group. Two-way ANOVA test results based on treatment group, observation time, and interaction between the treatment group and observation time showing significant values ($p < 0,05$). Post Hoc LSD test results showing significant differences ($p < 0,05$) of neutrophil counts on day 1 between the treatment group and positive control group as well as negative control group. In conclusion, application of 20% Muntingia calabura leaves gel extract was able to reduce neutrophil cells infiltration significantly on Wistar rat gingival wound healing process at day 1.

Keywords : Muntingia calabura leaves, gingival wound healing, neutrophil