

## ABSTRAK

### **PENGARUH PEMBERIAN TOPIKAL GEL EKSTRAK ETANOL DAUN CARICA (*Carica pubescens*) TERHADAP KADAR IL-10 PADA PROSES PENYEMBUHAN LUKA INSISI GINGIVA (Studi *In vivo* pada Tikus Galur Wistar)**

Septina Nur Aini

Fase inflamasi merupakan salah satu fase penting dalam penyembuhan luka insisi gingiva di mana terdapat peran sitokin antiinflamasi berupa IL-10 sebagai regulator utama dalam menekan inflamasi. *Carica pubescens* telah dilaporkan mengandung flavonoid sebagai antiinflamasi sehingga berpotensi menjadi bahan alternatif penyembuhan luka insisi gingiva. Tujuan penelitian ini untuk mengetahui pengaruh pemberian topikal gel ekstrak etanol daun *Carica pubescens* terhadap kadar IL-10 pada penyembuhan luka insisi gingiva tikus galur Wistar. Jenis penelitian eksperimental laboratoris *in vivo* dengan rancangan *posttest-only control group design*. Penelitian menggunakan 30 ekor tikus galur wistar jantan yang dibagi menjadi kelompok perlakuan gel ekstrak etanol daun carica konsentrasi 12,5%, 25%, 50%, kontrol positif *Aloclair* gel, dan kontrol negatif CMC-Na. Pengambilan sampel jaringan gingiva dilakukan pada hari ke-3. Hasil pemeriksaan kadar IL-10 dengan metode ELISA pada kelompok gel ekstrak etanol konsentrasi 12,5%, 25%, 50%, kontrol positif *Aloclair* gel, kontrol negatif CMC Na berturut-turut ialah  $60,77 \pm 5,59$ ;  $57,73 \pm 2,66$ ;  $56,02 \pm 3,01$ ;  $59,88 \pm 1,69$ ;  $41,07 \pm 3,80$  pg/mL. Kadar IL-10 paling tinggi pada pemberian gel ekstrak konsentrasi 12,5%. Hasil analisis statistik menunjukkan terdapat perbedaan yang signifikan ( $p < 0,05$ ) antar kelompok perlakuan dengan kontrol negatif namun tidak terdapat perbedaan signifikan ( $p > 0,05$ ) dengan kontrol positif. Kesimpulan dari penelitian ini adalah terdapat pengaruh pemberian gel ekstrak etanol daun carica terhadap peningkatan kadar IL-10 pada proses penyembuhan luka insisi gingiva tikus galur wistar dengan konsentrasi gel paling berpengaruh 12,5%.

**Kata Kunci** Antiinflamasi; *Carica pubescens*; IL-10; Luka insisi

## ABSTRACT

### THE EFFECT OF TOPICAL APPLICATION OF CARICA LEAF (*Carica pubescens*) ETHANOLIC EXTRACT GEL ON IL-10 LEVEL IN GINGIVAL WOUND HEALING PROCESS (*In vivo* study in Wistar Strain Rat)

Septina Nur Aini

*Inflammatory phase is one of the important phases in gingival incision wounds healing process, where there is a role for antiinflammatory cytokines such as IL-10 as the main regulator in suppressing inflammation. Carica pubescens has been reported contain flavonoid as an antiinflammation therefore potential as an alternative for post-incision gingival wound healing. The objective of this study was to determine the effect of topical application of Carica pubescens leaf ethanolic extract gel on IL-10 level in gingiva incision wound healing process in wistar strain rat. In vivo laboratory experimental technique was used in this study with posttest-only control group design. This study used 30 male wistar rats which were divided into treatment groups treated with carica leaf ethanol extract gel with concentration of 12.5%, 25%, 50%, also Aloclair gel positive control group and CMC-Na negative control group. Gingival tissue samples were collected on the third day. The result of analyzed IL-10 levels using ELISA method for Carica pubescens leaf ethanolic extract gel treated groups with 12,5%, 25%, 50% concentration, Aloclair gel positive control and CMC-Na negative control groups were  $60,77 \pm 5,59$ ;  $57,73 \pm 2,66$ ;  $56,02 \pm 3,01$ ;  $59,88 \pm 1,69$ ;  $41,07 \pm 3,80$  pg/mL, respectively. The IL-10 levels were decrease as the carica leaf ethanol extract gel concentration increase. The highest IL-10 concentration was found in the treatment group with 12,5% extract concentration. Statistical analysis result showed a significant difference ( $p < 0,05$ ) between treatment groups and negative control but there was no significant difference ( $p > 0,05$ ) with positive control group. The conclusion of this study is there was an effect of carica leaf ethanolic extract gel toward increasing level of IL-10 in post-incision gingival wound healing in wistar rat with the most effective concentration is 12,5%.*

**Keyword** Antiinflammation; *Carica pubescens*; IL-10; Incision wound;