

## INTISARI

Gingivitis adalah inflamasi terlokalisasi pada gingiva tanpa disertai kerusakan tulang alveolar. Limfosit berperan pada fase *early lesion* dalam perkembangan gingivitis. Keterlibatan limfosit pada inflamasi berkepanjangan memicu kerusakan tulang alveolar. Daun bawang putih anggur (*Mansoa alliacea*) mengandung flavonoid, fenol, dan triterpenoid yang dapat menghambat pelepasan IL-6, IL1 $\beta$ , dan TNF- $\alpha$ . Penelitian ini bertujuan untuk mengetahui efek aplikasi *oral dissolving strips* ekstrak daun bawang putih anggur (*Mansoa alliacea*) 3% terhadap jumlah limfosit pada model gingivitis terinduksi ligatur tikus *Sprague dawley*.

Subjek penelitian terdiri dari tiga puluh ekor tikus *Sprague dawley* yang dilakukan induksi gingivitis dengan ligasi pada gingiva incisivus sentralis rahang bawah selama empat hari. Subjek dibagi menjadi dua kelompok yakni kelompok perlakuan (*oral dissolving strips* ekstrak daun bawang putih anggur 3%) dan kelompok kontrol negatif (*oral dissolving strips* tanpa zat aktif). Aplikasi bahan uji dilakukan dengan menempatkan sediaan pada labial dan lingual gingiva incisivus sentralis rahang bawah. Aplikasi bahan uji dilakukan pada pagi dan sore hari. Tiga ekor subjek dari setiap kelompok dikorbankan pada hari ke-1, 3, 5, 7, dan 10. Pembuatan preparat histologis dilakukan dengan pengecatan Hematoksilin-Eosin. Preparat diamati dengan mikroskop binokuler. Jumlah limfosit dihitung dalam lima lapang pandang menggunakan perbesaran 1000x. Analisis data dilakukan dengan ANAVA dua jalur dan uji *Post Hoc* metode LSD.

Hasil penelitian menunjukkan adanya perbedaan signifikan ( $p < 0,05$ ) dari jumlah limfosit antar kelompok perlakuan dan kelompok kontrol negatif hari ke- 1, 3, 5, 7, dan 10. Kesimpulan penelitian ini adalah aplikasi *oral dissolving strips* ekstrak daun bawang putih anggur (*Mansoa alliacea*) 3% berpengaruh dalam menurunkan jumlah sel limfosit pada model gingivitis terinduksi ligatur.

Kata kunci: gingivitis, limfosit, *oral dissolving strips* ekstrak daun *Mansoa alliacea* 3%

## ABSTRACT

Gingivitis is localized inflammation of the periodontal tissues without alveolar bone destruction. Lymphocytes play roles in the early lesion phase in the development of gingivitis. Lymphocyte involvement in prolonged inflammation leads to alveolar bone damage. Garlic vine (*Mansoa alliacea*) leaves contain flavonoids, phenols, and triterpenoids that can inhibit the release of IL-6, IL1 $\beta$ , and TNF- $\alpha$ . This study aims to determine the effect of 3% *Mansoa alliacea* leaf extracts oral dissolving strips on the lymphocyte count in the *Sprague dawley* rat ligature induced gingivitis model.

The subjects used thirty *Sprague dawley* rats which were induced gingivitis by ligation of the mandibular central incisor gingiva for four days. Subjects were divided into two groups, namely the treatment group (3% *Mansoa alliacea* leaf extracts oral dissolving strips) and the negative control group (oral dissolving strips without active substances). The application of oral dissolving strips was carried out by placing the strips on the labial and lingual gingiva of the mandibular central incisors in the morning and evening. Three subjects from each group were sacrificed on days 1, 3, 5, 7, and 10. The histological preparations were made by Haematoxylin-Eosin staining. The preparations were observed with a binocular microscope. The number of lymphocytes was counted per five visual fields using a magnification of 1000x. Data analysis was performed using two-way ANOVA and Post Hoc LSD test.

The results showed that there was a significant difference ( $p < 0.05$ ) in the number of lymphocytes between the treatment group and the negative control group on days 1, 3, 5, 7 and 10. The conclusion of this study was the application of 3% *Mansoa alliacea* leaf extracts oral dissolving strips reduces the number of lymphocytes in the ligature-induced gingivitis model.

Key words: gingivitis, lymphocytes, 3% *Mansoa alliacea* leaf extract oral dissolving strips