

INTISARI

Periodontitis merupakan penyakit yang menyebabkan jaringan periodontal mengalami kerusakan *irreversible* sehingga kepadatan serabut kolagen pada tulang alveolar menurun. Gel lendir bekicot (*Achatina fulica*) berpotensi membantu penyembuhan tulang alveolar karena mengandung glikosaminoglikan yang dapat meningkatkan kepadatan serabut kolagen. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi topikal gel lendir bekicot (*Achatina fulica*) 20% terhadap kepadatan serabut kolagen tulang alveolar pada model tikus periodontitis.

Dua puluh tujuh ekor tikus periodontitis dibagi ke dalam tiga kelompok. Kelompok perlakuan diberi gel lendir bekicot (*Achatina fulica*) 20%, kelompok kontrol positif diberi Gengigel[®], dan kelompok kontrol negatif diberi gel CMC-Na 2%, masing-masing sehari sekali. Tikus didekapitasi pada hari ke-3, 7, dan 14 untuk dibuat menjadi sediaan histologis menggunakan pengecatan *Mallory*. Kepadatan serabut kolagen tulang alveolar diamati dengan mikroskop cahaya perbesaran 400x. Data hasil penelitian dianalisis menggunakan uji ANAVA dua jalur dan *Post-hoc LSD*.

Hasil uji analisis menunjukkan terdapat perbedaan bermakna ($p < 0,05$) kepadatan serabut kolagen antara kelompok bahan aplikasi gel lendir bekicot (*Achatina fulica*) 20%, Gengigel[®], dan gel CMC-Na 2% pada hari ke-3, 7, dan 14. Kesimpulan penelitian ini adalah aplikasi topikal gel lendir bekicot (*Achatina fulica*) 20% dapat meningkatkan kepadatan serabut kolagen tulang alveolar pada model tikus periodontitis.

Kata kunci : periodontitis, *Achatina fulica*, kolagen

ABSTRACT

Periodontitis is a disease which results in irreversible destruction of periodontal tissues, the destruction also reduce the density of its collagen fiber. Snail (*Achatina fulica*) mucin has a potential to help the healing process on alveolar bone because it contains glycosaminoglycan that can increase the density of collagen fiber. The aim of this study was to know the effect of snail (*Achatina fulica*) mucin at concentration 20% on the density of collagen fiber in the alveolar bones's healing process of periodontitis rats model.

Twenty seven periodontitis rats were randomly divided into 3 groups. The treated group were applied with 20% of snail (*Achatina fulica*) mucin, positive control were applied with Gengigel[®], and negative control were applied with 2% of CMC-Na gel. Afterwards, the rats were sacrificed on 3th, 7th, and 14th days to be done histologically using Mallory staining. The density of collagen fiber in alveolar bone were observed using optilab installed on microscope with 400x magnification. The data were analyzed by two-way ANOVA and *Post-hoc LSD*.

This study showed there was significant statistically differences ($p < 0,05$) of collagen fiber density between snail (*Achatina fulica*) mucin 20%, Gengigel[®] and CMC-Na gel on 3th, 7th, and 14th. The conclusion of this study was snail (*Achatina fulica*) mucin 20% could increase the density of collagen fibers in the alveolar bones's healing process of periodontitis rats model.

Keywords: Periodontitis, *Achatina fulica*, collagen