

INTISARI

Penyembuhan luka merupakan respon tubuh untuk mengembalikan fungsi dan integritas jaringan. Membran *platelet-rich fibrin* (PRF) dengan *releasate* merupakan konsentrat platelet dan *releasate* yang mengandung berbagai macam *growth factors* dan sitokin yang terbukti dapat mempercepat proses penyembuhan luka. Membran PRF dengan *releasate* mudah dibuat dan murah karena didapat dari darah sendiri yang disentrifugasi tanpa antikoagulan atau zat tambahan lainnya. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi membran *platelet-rich fibrin* dengan *releasate* terhadap ketebalan epitel pada proses penyembuhan luka gingiva kelinci *Oryctolagus cuniculus*.

Dua puluh empat ekor kelinci *Oryctolagus cuniculus* dibagi menjadi 2 kelompok (kontrol negatif dan perlakuan). Perlukaan dibuat pada gingiva labial rahang bawah dengan metode deepitelisasi seluas 4 mm x 4 mm kemudian diaplikasikan membran *platelet-rich fibrin* dengan *releasate* pada kelompok perlakuan sedangkan kelompok kontrol negatif tidak diaplikasikan membran. Pembuatan preparat histologis menggunakan pewarnaan hematoksilin eosin dilanjutkan perhitungan dan pengamatan ketebalan epitel dilakukan pada hari 3, 5, 7, dan 10. Data yang didapatkan dianalisis dengan uji *two-way ANOVA* dilanjutkan *Post Hoc* dengan LSD pada tingkat signifikansi 95%.

Hasil penelitian menunjukkan terdapat perbedaan ketebalan epitel yang bermakna ($p < 0,05$) antar kelompok yaitu kontrol negatif dan perlakuan. Rerata ketebalan epitel kelompok perlakuan pada seluruh hari pengamatan menunjukkan hasil yang lebih tinggi dari pada kelompok kontrol negatif. Kesimpulan penelitian ini yaitu aplikasi membran *platelet-rich fibrin* dengan *releasate* berpengaruh meningkatkan ketebalan epitel pada proses penyembuhan luka gingiva kelinci *Oryctolagus cuniculus*.

Kata kunci: membran *platelet-rich fibrin* (PRF), *releasate*, ketebalan epitel

ABSTRACT

Wound healing is the body's response to return tissue function and integrity. Platelet-rich fibrin (PRF) membrane with releasate is a platelet concentrate and releasate which contains various kinds of growth factors and cytokines which are proven to accelerate the wound healing process. Platelet-rich fibrin membrane with releasate are easy to make and inexpensive because they are obtained from the subject's own blood which is then centrifuged without the addition of anticoagulants or other additives. This study aims to determine the effect of application of platelet-rich fibrin membrane with releasate to epithelial thickness in the process of gingival wound healing observed *in vivo* on *Oryctolagus cuniculus*.

Twenty-four *Oryctolagus cuniculus* rabbits were divided into 2 groups (negative control and treatment). Injuries were made to the lower labial gingiva with deepitelization method covering an area of 4 mm x 4 mm, then platelet-rich fibrin membranes with releasate were applied to the treatment group, while the subjects in the negative control group were left untreated. Wounded tissues from each subject were then made into histological specimens with hematoxylin eosin staining, followed by observation and measurement of epithelial thickness on the 3rd, 5th, 7th, and 10th day. Data obtained were analyzed by two-way ANOVA test followed by LSD Post Hoc test at 95% significance level.

The results showed that there were significant differences in epithelial thickness ($p < 0,05$) between two groups. The mean epithelial thickness of the treatment group on all observation days showed higher results than the negative control group. From this study it can be concluded that the application of platelet-rich fibrin membrane with releasate had an effect on increasing epithelial thickness in the process of gingival wound healing observed *in vivo* on *Oryctolagus cuniculus*.

Keywords: platelet-rich fibrin (PRF) membrane, releasate, epithelial thickness