INTISARI

Luka sering terjadi di rongga mulut dan dapat sembuh dengan sendirinya, namun karena kondisi di rongga mulut yang terdapat banyak kontaminan membuat penanganan luka di rongga mulut menjadi sulit dilakukan sehingga diperlukan stimulasi yang dapat mencegah hal tersebut. Banyak sel-sel yang berperan dalam proses penyembuhan luka, salah satunya yaitu sel inflamasi makrofag. Tedapat beberapa membran yang dapat mempercepat penyembuhan luka, salah satunya yaitu membran *platelet-rich fibrin* (PRF). Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi membran *platelet-rich fibrin* (PRF) dengan *releasate* terhadap jumlah makrofag pada proses penyembuhan luka gingiva yang diamati secara *in vivo* pada *Oryctolagus cuniculus*.

Penelitian menggunakan dua puluh empat ekor *Oryctolagus cuniculus* yang dibagi menjadi kelompok kontrol (tanpa aplikasi membran PRF dengan *releasate*) dan kelompok perlakuan (diaplikasikan membran PRF dengan *releasate*). Perlukaan dibuat pada gingiva labial rahang bawah kemudian diaplikasikan masing-masing membran PRF dengan *releasate* dan diamati sesuai waktu penelitian. Perhitungan dan pengamatan jumlah makrofag dilakukan pada hari 1, 3, 5, dan 7. Data yang didapatkan dianalisis dengan uji *Two Way ANOVA* dilanjutkan *Post Hoc* dengan LSD.

Hasil penelitian menunjukkan adanya perbedaan yang bermakna rerata jumlah makrofag antara kelompok kontrol dengan kelompok perlakuan. Dapat disimpulkan bahwa aplikasi membran *platelet-rich fibrin* dengan *releasate* berpengaruh meningkatkan jumlah makrofag pada hari ke-1 dan 3 kemudian menurunkan jumlah makrofag pada hari ke-5 dan 7 pada proses penyembuhan luka gingiva yang diamati secara *in vivo* pada *Oryctolagus cuniculus.*

Kata Kunci: Membran *platelet-rich fibrin* (PRF), *Releasate*, Makrofag

ABSTRACT

Wounds often occur in the mouth and healed on their own, but because of the conditions in the oral cavity where there are many contaminants that make the treatment of wounds in the oral cavity difficult, so stimulation is needed to prevent it. Many cells have role in the process of wound healing, one of inflammatory cell is macrophage. There are several membranes that can accelerate wound healing, such as platelet-rich fibrin (PRF) membrane with releasate. This study aims to determine the effect of the application of platelet-rich fibrin (PRF) membrane with releasate to the number of macrophages in the healing process of gingival wounds observed in *Oryctolagus cuniculus*.

The study used twenty four *Oryctolagus cuniculus* which were divided into control group (the group without the application of PRF membrane with releasate) and treated group (the group with the application of PRF membrane with releasate). Injuries were made to the labial gingival in the mandibular then each was applied with PRF membrane with releasate and observed according to the day observed. Calculation and observation of the number of macrophages were carried out on the 1st, 3rd, 5th, and 7th day. Data obtained were analyzed by Two Way ANOVA test followed by Post Hoc with LSD.

The results showed a significant difference in the mean number of macrophages between control group and treated group. It can be concluded that the application of platelet-rich fibrin membrane with releasate has the effect to increased the number of macrophage at the 1st and 3rd day then decreased the number of macrophage at the 5th and 7th day in the healing process of gingival wounds observed in *Oryctolagus cuniculus*.

Keywords: Platelet-rich fibrin (PRF) membrane, Releasate, Macrophages