

**PENGARUH *ADVANCED PLATELET RICH FIBRIN* TERHADAP
PENINGKATAN JUMLAH OSTEOSIT PASCA INSERSI
IMPLAN GIGI JENIS *ENDOSSEOUS***

INTISARI

Implan *endosseous* merupakan implan yang diinsersikan ke dalam tulang rahang melalui *gingiva* dan *periosteum*, sebagian tertanam dan terkait dalam tulang. Sel-sel osteosit berperan penting dalam proses oseointegrasi sehingga pengamatan pada sel ini dapat digunakan sebagai salah satu indikator keberhasilan pemasangan implan. *Growth factor* yang terkandung didalam *advanced platelet-rich fibrin* (A-PRF) berperan untuk proliferasi dan diferensiasi osteoblas menjadi osteosit sehingga memicu terjadinya oseointegrasi. Tujuan penelitian ini untuk mengetahui pengaruh pemberian *advanced platelet-rich fibrin* terhadap peningkatan jumlah osteosit pasca insersi implan jenis *endosseous*.

Tikus Wistar jantan dengan berat 250-300 gram dibagi dalam 4 kelompok dan diadaptasi selama 1 minggu. Pengambilan darah 3ml diperlukan untuk pembuatan A-PRF kemudian preparasi implan dilakukan pada daerah *epicondylus lateralis femoris dextra*. Kelompok I dan II sebagai kelompok perlakuan, kelompok III dan kelompok IV sebagai kelompok kontrol. Setiap kelompok terdiri dari 3 ekor tikus Wistar. Kelompok I dan III diambil sampelnya pada hari ke 14, sedangkan kelompok II dan IV pada hari ke 28. Data yang diperoleh dianalisis dengan anava dua jalur.

Uji statistik menunjukkan terdapat perbedaan bermakna peningkatan jumlah osteosit antara kelompok *advanced platelet rich fibrin* dengan kontrol ($p < 0,05$). Kesimpulan penelitian ini adalah pemberian *advanced platelet rich fibrin* (A-PRF) berpengaruh meningkatkan jumlah osteosit pasca pemasangan implan gigi jenis *endosseous*.

Kata kunci : *advanced platelet rich fibrin*, osteosit, implan gigi

THE EFFECT ADVANCED PLATELET RICH FIBRIN OF INCREASED IN NUMBER OSTEOSITS POST INSERTION ENDOSSEOUS DENTAL IMPLANT

ABSTRACT

Endosseous implants are type of implants that inserted into the jawbone through the gingiva and periosteum, partially embedded and linked in the bone. Osteocyte cells play an important role in the process of osseointegration so that observation of these cells can be used as an indicator of the success of implant placement. The growth factors contained in advanced platelet-rich fibrin (A-PRF) contribute to the proliferation and differentiation of osteoblasts into osteocytes so that triggers oseointegration. The purpose of this study was to determine the effect of using advanced platelet-rich fibrin to an increase in the number of osteocytes post insertion of endosseous implants.

Male Wistar rats weighing 250-300 grams were divided into 4 groups and adapted for 1 week. Three mililiters blood sampling was required for the manufacture of A-PRF then implant preparation was carried out in the area of the epicondylus lateralis femoris dextra. Group I and II as the treatment group, group III and group IV as the control group. Each group consisted of 3 Wistar rats. Group I and III were sampled on the 14th day, while groups II and IV on the 28th day. The data were analyzed by two-way anova.

Statistical tests showed there was a significant difference in the increase in osteocyte counts between the advanced platelet rich fibrin group and controls ($p < 0.05$). The conclusion of this study is that the administration of advanced platelet rich fibrin (A-PRF) has an effect on increasing the number of osteocytes after insertion of endosseous dental implants.

Keywords: advanced platelet rich fibrin, osteocytes, dental implant