

INTISARI

Metode *minimally invasive surgical technique* (MIST) merupakan metode perawatan regeneratif periodontal dengan meminimalkan trauma sehingga dapat mempertahankan suplai vaskular dari papilla interdental. Penelitian ini bertujuan untuk mengetahui efektivitas metode MIST dengan penambahan kombinasi *hydroxyapatite* dan β -*tricalcium phosphate* (HA + β -TCP) pada perawatan poket infraboni ditinjau dari densitas tulang alveolar dan kadar osteokalsin cairan sulkus gingiva.

Sampel penelitian diambil dari 20 gigi dengan poket infraboni yang dibagi menjadi dua kelompok, 10 gigi dirawat dengan MIST dan 10 gigi lainnya dengan *open flap debridement* (OFD). Kedua kelompok diberikan kombinasi *bone graft* HA + β -TCP. Kadar osteokalsin cairan sulkus gingiva diperiksa pada hari ke-0 sebelum tindakan bedah *flap*, hari ke-7 dan 14 setelah bedah *flap* menggunakan *Human Osteocalcin Elisa Kit*. Evaluasi radiologis densitas tulang alveolar pada hari ke-0 dan 90 menggunakan CBCT. Data kadar osteokalsin dianalisa dengan uji *two-way ANOVA* dan dilanjutkan uji *Post Hoc LSD* sedangkan data reduksi densitas tulang alveolar dianalisa dengan uji parametrik *Independent T-test*.

Hasil penelitian menunjukkan tidak terdapat perbedaan signifikan nilai densitas tulang alveolar antar kelompok MIST dan OFD pada hari ke-0 dan 90, sedangkan kadar osteokalsin kedua kelompok menunjukkan peningkatan dari hari ke-0 ke hari ke-7 dan penurunan pada hari ke-7 ke hari ke-14. Perbedaan kadar osteokalsin antara kedua kelompok pada hari ke-0, 7 dan 14 tidak signifikan. Kesimpulan penelitian ini adalah metode MIST dengan HA + β -TCP efektif meningkatkan densitas tulang alveolar dan kadar osteokalsin cairan sulkus gingiva dibandingkan metode OFD.

Kata kunci: MIST, osteokalsin, densitas tulang alveolar, poket infraboni.

ABSTRACT

The minimally invasive surgical technique (MIST) is a method for periodontal regenerative treatment by minimizing trauma so it can preserve vascular supply of the interdental papillae. This study aims to determine the effectiveness of the MIST method with the addition of a combination of hydroxyapatite and β -tricalcium phosphate (HA + β -TCP) in infrabony pockets treatment in terms of alveolar bone density and osteocalcin levels of gingival crevicular fluid.

The study sample was taken from 20 teeth with infrabony pockets which were divided into two groups, 10 teeth treated with MIST and the other group with open flap debridement (OFD). Both groups received combination of HA + β -TCP. The osteocalcin levels of gingival crevicular fluid were checked on day-0 prior to the flap surgery, day-7 and day-14 after flap surgery using the Human Osteocalcin Elisa Kit. Radiological evaluation of alveolar bone density at day-0 and day-90 used CBCT. Data of osteocalcin levels were analyzed using two way ANOVA and continued with LSD Post Hoc test, while data of alveolar bone density reduction were analyzed using the Independent T-test parametric test.

The results showed that there was no significant difference in the values of alveolar bone density between the MIST and OFD groups on day-0 and day-90, while the osteocalcin levels in both groups showed an increase from day-0 to day-7 and a decrease from day-7 to day-14. The differences in osteocalcin levels between the two groups at day-0, 7 and 14 were not significant. The conclusion of this study is that the MIST method with HA + β -TCP was effective and further increases alveolar bone density and osteocalcin levels of gingival crevicular fluid compared to OFD method.

Key words: MIST, osteocalcin, alveolar bone density, infrabony pocket.