

## PERBANDINGAN HASIL PERAWATAN PERIODONTITIS KRONIS ANTARA KURET LASER DIODA DAN KURET MANUAL KOMBINASI FOTODINAMIK

### INTISARI

Periodontitis kronis merupakan penyakit inflamasi kronis pada jaringan pendukung gigi. Perawatan *scaling* dan *root planing* pada penderita periodontitis kronis dengan poket lebih dari 3mm masih dianggap kurang efektif, sehingga perlu adanya perawatan kuretase untuk menghilangkan jaringan granulasi, koloni bakteri, dan serpihan kalkulus yang tertinggal pada poket. Terdapat beberapa alternatif maupun perawatan tambahan kuretase yang dapat dilakukan yaitu menggunakan laser dioda dan terapi fotodinamik. Penelitian ini bertujuan untuk mengkaji perbedaan hasil perawatan kuretase pada penderita periodontitis kronis menggunakan kuret laser dioda dan kuret manual kombinasi fotodinamik.

Sampel penelitian adalah dua puluh titik poket yang diambil dari penderita periodontitis kronis, selanjutnya sampel dibagi menjadi 2 kelompok. Kelompok I yaitu kelompok yang dilakukan kuretase menggunakan laser dioda dan kelompok II yaitu kelompok yang dilakukan kuretase menggunakan kuret manual ditambah dengan terapi fotodinamik. Hasil terapi dilihat dari parameter *probing pocket depth* (PPD), *relative attachment loss* (RAL), *papillary bleeding index* (PBI) dan jumlah koloni bakteri pada *baseline* dan hari ke-30. Data hasil penelitian PPD, RAL, dan PBI dianalisis menggunakan *Mann-Whitney* serta jumlah koloni bakteri menggunakan *Independent T-test* dengan tingkat kepercayaan 95% ( $\alpha=0,05$ ).

Hasil penelitian menunjukkan terdapat perbedaan bermakna hasil perbaikan PBI dan hasil penurunan jumlah koloni bakteri antar kelompok ( $p<0,05$ ), namun tidak ada perbedaan bermakna hasil perbaikan PPD dan RAL antar kelompok ( $p>0,05$ ). Kesimpulan penelitian ini adalah hasil kuretase menggunakan laser dioda lebih baik dalam perbaikan PBI, sedangkan kuretase manual kombinasi fotodinamik lebih baik dalam menurunkan jumlah koloni bakteri, namun kedua kelompok sama dalam perbaikan PPD dan RAL pada penderita periodontitis kronis.

**Kata kunci:** kuretase, laser dioda, terapi fotodinamik, klorofil, periodontitis kronis

## COMPARISON OF CHRONIC PERIODONTITIS TREATMENT RESULTS BETWEEN LASER DIODE CURETTE AND MANUAL CURETTE WITH PHOTODYNAMIC

### Abstract

Chronic periodontitis is a chronic inflammatory disease of the supporting tissues of the teeth that causes progressive destruction of the periodontal ligament and alveolar bone. Scaling and root planing treatments in patients with chronic periodontitis with pockets more than 3mm are still considered ineffective, so curettage treatment is needed to remove granulation tissue, bacterial colonies, and calculus debris left in the pocket. There are several alternative or additional curettage treatments that can be done, namely using a diode laser and photodynamic therapy. This study aims to examine differences in the results of curettage in patients with chronic periodontitis using a diode laser curette and manual curette with photodynamic therapy.

The research sample consisted of twenty pocket points taken from patients with chronic periodontitis, then the samples were divided into 2 groups. Group I was the group that was treated using a diode laser and group II was the group that was treated with manual curette plus photodynamic therapy. The results of therapy were seen from the parameters of probing pocket depth (PPD), relative attachment loss (RAL), papillary bleeding index (PBI) and the number of bacterial colonies at baseline and day 30. Data from the PPD, RAL, and PBI research were analyzed using Mann-Whitney and the number of bacterial colonies using the Independent T-test with a 95% confidence level ( $\alpha=0.05$ ).

The results showed that there was a significant difference in the results of improving PBI and the results of decreasing the number of bacteria between groups ( $p<0.05$ ), but there was no significant difference in the results of improving PPD and RAL between groups ( $p>0.05$ ). The conclusion of this study was that the results of curettage using a diode laser was better in repairing PBI, while manual curette with photodynamic therapy was better in reducing the number of bacteria, but both groups were the same in repairing PPD and RAL in patients with chronic periodontitis.

**Keywords:** curettage, diode laser, photodynamic therapy, chlorophyll, chronic periodontitis