INTISARI

Scaling Root-Planing (SRP) merupakan perawatan mekanis untuk menghilangkan deposit keras dan lunak serta bakteri yang menempel pada permukaan gigi. Penggunaan tambahan terapi fotodinamik (PDT) dapat menyebabkan kerusakan sel bakteri patogen. *Metronidazole* adalah antibiotik umum dengan spektrum luas dapat melawan patogen periodontal. Penelitian ini bertujuan untuk membandingkan perbedaan hasil *Scaling Root-Planing* (SRP) antara terapi fotodinamik (PDT) dan gel *metronidazole* 25% dalam penanganan periodontitis kronis dilihat dari parameter klinis *Pocket Depth* (PD), *Relative Attachment Level* (RAL), *Papillary Bleeding Index* (PBI) dan jumlah koloni bakteri.

Sampel penelitian diambil dari 30 titik poket periodontal yang dibagi menjadi dua kelompok perlakuan. Cara penelitian yaitu dimulai dengan pengambilan bakteri pada poket dengan *paper point* pada kedua kelompok, lalu pengukuran PD, RAL dan PBI. Setelah itu dilakukan SRP, kemudian diaplikasikan klorofil ke dalam poket dan disinar dengan sinar 405 nm sedangkan grup kedua setelah dilakukan SRP, diaplikasikan gel *metronidazole* 25% sampai mengisi poket. Hasil PD dan RAL dicatat dengan waktu pengamatan *baseline*, minggu ke-3, ke-6 dan ke-9, sedangkan pada PBI dan jumlah koloni bakteri, dihitung pada *baseline* dan ke-3. Distribusi data dianalisis dengan uji *Shapiro Wilk* dan reduksi data menggunakan uji non parametik *Mann Whitney*.

Hasil penelitian menunjukkan penurunan PD, RAL, PBI dan jumlah koloni pada kedua kelompok, tetapi perbedaan signifikan terdapat pada PD, RAL *baseline*-minggu ke-9. Kesimpulan penelitian menunjukkan penurunan PD dan RAL lebih besar pada *baseline*-minggu ke-9 tetapi tidak terdapat perbedaan penurunan PBI dan jumlah koloni.

Kata kunci: terapi fotodinamik, gel *metronidazole* 25%, s*caling root-planing*, periodontitis kronis

ABSTRACT

Scaling Root-Planing (SRP) is a mechanical treatment for removing hard and soft deposits as well as bacteria that adhere to the tooth surface. The additional use of Photodynamic Therapy (PDT) affects to the damage of bacteria pathogen cell. Metronidazole is a common antibiotic with broad spectrum that againts on periodontal pathogen. This study aimed at comparing the differences of the result of Scaling Root-Planing (SRP) between Photodynamic Therapy (PDT) and metronidazole gel 25% in treating chronic periodontitis which was seen from the clinical parameters of Pocket Depth (PD), Relative Attachment Level (RAL), Papillary Bleeding Index (PBI) and the amount of bacterial colonies.

The study samples were taken from 30 periodontal pocket points which were divided into two treatment groups. The procedures were started by taking bacteria in pocket using paper point in two treatment groups, then measured PD, RAL and PBI. After that the first group was treated by SRP, then application of chlorophyll into the pockets and was lighted by 405 nm light while in the second group, after was treated by SRP, was applied by metronidazole gel 25% into the pocket. PD and RAL results were calculated within observation time of baseline,3^{rd},6^{th} and 9^{th} weeks, while on PBI and the amounts of bacterial colony, were calculated at baseline and 3^{rd} weeks. Distribution of data was analyzed by Shapiro Wilk test and the data reduction used non parametic test of Mann Whitney.

The research result showed decreasing in PD, RAL, PBI and amounts of bacterial colony in both groups, but significant difference was in PD, RAL of baseline-9^{th} weeks. Conclusion of the study showed greater decrease in PD and RAL at baseline-9^{th} weeks but there was no difference in the decrease of PBI and bacteria colony counting.

Keywords: photodynamic therapy, metronidazole gel 25%, scaling root-planing, chronic periodontitis