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The Effect of Apatite Carbonate Membrane Application on Periodontal Tissue after Scaling and Root Planing Treatment

Ira Komara*, Nunung Rusminah, Ina Hendiani, Siti Sopiati,
Nuryanni Dihin Utami

Department of Periodontics Faculty of Dentistry Universitas Padjadjaran, Indonesia

Abstract : The aim of this study was to evaluate the effect of adjunctive apatite carbonate membrane on pocket depth and clinical attachment loss in chronic periodontitis. The research method was a randomized control trial, double-blind, and split mouth, the examination carried out before and after the treatment. Parameters examined including pocket depth and clinical attachment loss. The study samples were chronic periodontitis patients that came to Periodontics Clinic of Faculty of Dentistry Padjadjaran University Dental Hospital, consisted of 11 male and 11 female patients with the mean of age of 48,6-years. All patients were treated with scaling and root planing followed by the application of apatite carbonate membrane in the deepest pockets of selected teeth, then covered by periodontal pack. Clinical examination was also carried out on the 30th day. Data analysis was tested by Wilcoxon test. The results from the clinical examination of the gingiva before treatment (H_0) were as follows: the mean of pocket depth on both treatment and control group was 6 mm; the clinical attachment loss on both treatment and control group was 7 mm. The results from clinical examination after treatment (D_{30}) were as follows: the mean of pocket depth on both treatment and control group was 3 mm; the clinical attachment loss on treatment group was 4.5 mm and on control group was 4 mm. The difference mean of pocket depth (PD) and attachment loss (AL) at D_0 compared to D_{30} was significant ($p < 0.001$). Conclusion: Apatite carbonate membrane as an adjunctive therapy after scaling and root planing had significant effects on pocket depth and clinical attachment loss resulted in the PD and CAL reduction in chronic periodontitis.

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