

R-21. Effect of Carbon Dioxide Laser on the Clinical Parameters and Crevicular IL-1 β When used as an adjunct to Gingival Flap Surgery

Kyung-Hee Choi¹, Chang-Sung Kim¹, Seong-Ho Choi^{1,2}, Kyoo-Sung Cho^{1,2}, Jung-Kiu Chai¹, Chong-Kwan Kim^{1,2}

¹Dept. of Periodontology, Research Institute for Periodontal Regeneration, College of Dentistry, Yonsei University, Seoul, Korea, ²Brain Korea 21 Project for Medical Science

연구 배경

The objective of the present study was to evaluate the effect of a carbon dioxide (CO₂) laser treatment on the clinical parameters and crevicular Interleukin-1 (IL-1) levels when used in combination with gingival flap surgery.

연구방법 및 재료

Twelve patients with moderate to advanced periodontitis were selected for this study. Three quadrants of each patient were randomly assigned to one of the following study groups: 1) flap surgery only as the (control); 2) flap surgery and laser treatment using an energy level of 0.8 W as (group 1); 3) flap surgery and laser treatment using an energy level of 0.5 W as (group 2). The gingival crevicular fluid (GCF) was collected at the baseline and biweekly for 6 weeks and the amount of IL-1 concentration in sulcular fluid was measured using an enzyme-linked immunosorbent assay (ELISA). The clinical parameters such as the probing pocket depth, the clinical attachment level, the gingival recession and the bleeding on probing were recorded at baseline, 3, 6 months.

연구결과

The results were as follows; marked reductions of the bleeding on probing, the probing pocket depth, the clinical attachment level and a reduction in the crevicular IL-1 concentration were found in all groups. However, the differences between the groups in terms of bleeding on probing and the probing pocket depth were not significant ($p < 0.05$). The clinical attachment level and the crevicular IL-1 level were significantly lower in group 1 (0.8 W) than in the control ($p < 0.05$).

결론

In conclusion, additional use of a Carbon Dioxide laser on the root surface during gingival flap surgery may enhance the clinical attachment and reduce crevicular IL-1 concentration

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