

R-20. Clinical effect of combined treatment by subgingival curettage and CO₂ laser application.

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Background

Recent development of laser technology suggests a great deal of possibilities in the field of dentistry. The mechanism and safety of laser surgery is well established in many studies especially on the soft tissue applications. It has advantages including excellent hemostasis, visibility and less postoperative pain. But from a periodontal point of view, much has yet to be proven. Many studies have also suggested efficacy of CO₂ laser application on the root surfaces in vitro.

The objective of the present study was to evaluate the clinical effect of CO₂ laser treatment when used in combination with conventional subgingival curettage through the measurement of clinical parameters.

Methods

Twelve patients with moderate to advanced periodontitis were selected. 2 quadrants of each patient were randomly assigned to one of the following study groups: 1) subgingival curettage only as Control group 2) subgingival curettage and laser treated using an energy level of 0.8W as Laser group; Clinical parameters such as probing pocket depth, clinical attachment level, gingival recession and bleeding on probing were recorded at baseline and 1, 3, 6 month(s) after baseline respectively.

Results

An obvious clinical improvement (marked reductions of bleeding on probing, probing pocket depth and clinical attachment level) were found in both groups comparing with baseline. However, the differences between groups in probing pocket depth and clinical attachment level were not significant. Bleeding on probing showed statistically significant difference between groups on after 6 months only ($p < 0.05$).

Conclusion

Additional use of CO₂ laser on non-surgical periodontal treatment may help reduction of inflammation.

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