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2406 Adjunctive Effect of Low-power Laser in Periodontally Involved Infrabony Defects

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Objectives: To evaluate the adjunctive effect of a low-power laser in periodontally involved infrabony defects with non-surgical periodontal treatment of patients with moderate to advanced periodontal disease using digital subtract radiography (DSR). Methods: A total of 14 patients suffering from chronic periodontitis were recruited. Two sites with PPD >5mm and comparable infrabony bone defects were selected on each side of the mouth and randomly assigned as test and control side for each patient. Clinical parameters were recorded and standardized periapical radiographs were taken at 0, 1, 3, 6 and 9-month. Both test and control sides were treated non-surgically. Irradiation using low-power laser (He-Ne) operated at 632nm with an output power of 0.2mW was applied directly for ten minutes for a total of eight times to the buccal or palatal aspects of the two test sites within each patient. The radiographs obtained were digitized and subjected to computer-assisted densitometric image analysis (CADIA) using a calibrated DSR system. Wilcoxon Signed Ranks Test was used to compare differences of CADIA values between test and control sites. Results: All clinical parameters in the test and control sites improved favourably after non-surgical periodontal therapy. Higher mean CADIA values in the test than the control sites were found at all time points which indicated more bone gain in the test sites throughout the study. In addition, significant increase in CADIA values were found in the test sites at successive time points ($p=0.035$) but not in control sites. However, no statistical significant difference could be found between the test and control sites at all examinations. Conclusion: Adjunctive use of low-power laser may exert some biological effect on bone gain but no significant clinical benefits could be obtained when used as an adjunct with non-surgical periodontal therapy in treating infrabony defects.

[Seq #243 - Adjunct Treatment](#)

10:15 AM-11:30 AM, Friday, 12 March 2004 Hawaii Convention Center Exhibit Hall 1-2

[Back to the Periodontal Research - Therapy Program](#)

[Back to the IADR/AADR/CADR 82nd General Session \(March 10-13, 2004\)](#)