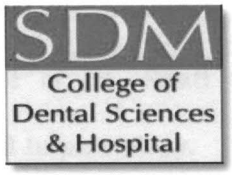
EVALUATION OF LOW LEVEL LASER THERAPY IN COMBINATION WITH BIOACTIVE GLASS IN THE TREATMENT OF HUMAN PERIODONTAL ANGULAR BONY DEFECTS – A CLINICO RADIOLOGICAL STUDY



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ABSTRACT

Background and objectives: Bone grafts are widely used for the regeneration of the periodontium. Biostimulation by low level laser creates a number of environmental conditions that appear to accelerate the healing of bone. Hence, the aim of this study was to evaluate the efficacy of low level laser therapy in combination with bioactive glass in the treatment of human periodontal intraosseous defects.

Material and methods: Twenty two defects from 18 patients with clinical probing depth of ≥ 5 mm and radiographic evidence of an angular defect were recruited and randomly divided into two groups of 11 sites each. Group I was treated by bioactive glass only and group II with bioactive glass and LLLT. Clinical parameters, such as plaque index, gingival index, probing pocket depth, relative attachment level and radiographic parameter, defect depth were recorded at baseline and at 3 months. Radiographs were taken by digital volumetric tomography and assessed using CS 3D software.

Results: All parameters showed statistically significant improvement within the groups from baseline to 3 months. GI was slightly increased in group I which was not statistically significant and it was decreased in group II. Comparison of all parameters between groups was statistically significant in group II than group I from baseline to 3 months.

Conclusion: LLLT in combination with bioactive glass was more effective in the treatment of angular bony defect than bioactive glass alone.

Key words: bioactive glass, digital volumetric tomography, diode laser, intrabony defect.