AN EVALUATION OF A COMPOSITE BONE GRAFT MATERIAL CONTAINING MINERAL TRIOXIDE AGGREGATES WITH HYDROXYAPATITE AND HYDROXYAPATITE ALONE IN THE TREATMENT OF HUMAN PERIODONTAL GRADE II FURCATION DEFECTS. A COMPARATIVE CLINICO- RADIOGRAPHIC STUDY.

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ABSTRACT

Background and objectives: Furcation defects are among the most challenging scenarios for periodontal therapy and impede the prognosis of the tooth. It has been observed that the prognosis of the teeth with grade II furcation defects can be improved by regenerative therapy that results in bone fill. Hence, the purpose of this study was to evaluate the efficacy of a composite bone graft containing Mineral Trioxide Aggregates with Hydroxyapatite as compared to Hydroxyapatite alone in treating mandibular grade II furcation defects.

Method: The study sample included 20 sites in 11 patients, 6 females and 5 males with mandibular grade II furcation defects. The patients, aged between 35-55 yrs were randomly divided between test and control sites, test sites receiving a composite bone graft containing MTA and Hydroxyapatite and the control sites received hydroxyapatite alone. The patients were followed up for a period of 9 months.

The clinical parameters included relative attachment level, probing pocket depth and horizontal defect depth which were recorded with a UNC-15 probe at baseline and 9 months at reentry. Radiographs were analysed using AutoCAD software; both at baseline and 9 months.

Results: The gain related to relative attachment level, horizontal defect depth and probing pocket depth at 9 months were statistically significant in both the groups when compared to the baseline values. Among both the groups the test group showed significantly better results in terms of relative attachment level and horizontal defect depth. The radiographic bone fill was also significantly better in the test group when compared to the control group.

Interpretation and conclusion: Both the groups showed significant improvement in all the parameters assessed when compared to the baseline values. But among the two groups the test group showed significant improvement over the control group in all the parameters evaluated. However, long term studies are required to give conclusive evidence for using the test material Mineral Trioxide Aggregates as a treatment modality in regeneration.

***Key words**: Regeneration; Hydroxyapatite (HA); Mineral Trioxide Aggregates (MTA); furcation defects.*