# COMPARATIVE EVALUATION OF THE EFFICACY OF HYDROXYAPATITE (PERIOBONE-G), BETATRICALCIUM PHOSPHATE (BIORESORB) GRAFT MATERIALS ALONE AND IN COMBINATION (ORTOGRAF-LD) IN THE TREATMENT OF HUMAN PERIODONTAL INFRABONY DEFECTS. A CLINICO RADIOGRAPHIC STUDY



by

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# ABSTRACT

**Background and objectives:** Dentistry has searched for the ideal material to place in osseous defects for many years. Periodontists have long been interested in finding the ideal graft material to add to their surgical repertoire. This would allow them to accomplish a major goal i.e. reconstruction of the functional attachment lost due to periodontal disease. Dentists today are faced with many materials marketed for the purpose of repairing osseous defects, many of them claiming to be the "ideal" material.

The purpose of this study was to evaluate the efficacy of hydroxyapatite, β-TCP, alone as well as in combination.

**Method:** The study sample included 30 defects present in 23 patients, 14 female and 9 males, with a minimum of one angular bone defect. The patients were aged between 25 and 55 years. The defects were randomly divided into three groups to receive any of the three materials and followed up for a period of 9 months.

The probing pocket depth, relative attachment level and depth of the defect were recorded for each surgical site before surgery (baseline) and after 9 months at the time of surgical re-entry. Radiographic defect fill was also measured at the end of 9 months.

**Results:** The gain related to probing pocket depth, relative attachment level and depth of the defect was found to be statistically significant for all the three groups. However, the HA/β-TCP and β-TCP groups showed better results as compared to HA. Radiographically the mean amount of defect fill showed significant difference between the HA and β-TCP groups, with β-TCP showing better results. When

radiographic defect fill of HA and β-TCP groups was compared with HA/β-TCP group, no statistically significant difference was found.

**Interpretation and conclusion:** All the three materials revealed a statistically significant improvement in both clinical and radiographic parameters. But when comparison was made between the three materials the composite bone graft (HA + β-TCP) showed more reduction in probing depth when compared to β-TCP and HA. However long term studies are needed for clinical evidence that combining HA and TCP is more beneficial compared to when they are used alone.

***Keywords:*** *Hydroxyapatite (HA); Beta-tricalcium phosphate (β-TCP); Angular bone defects.*