

# *Abstract*

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## **ABSTRACT**

### **BACKGROUND**

Tooth extraction typically leads to loss of alveolar bone housing in width & height. Socket preservation at the time of extraction is done to minimise crestal bone changes, thereby minimizing horizontal and vertical ridge resorption and aids in placement of implant in a favourable position for better esthetics and function.

The aim of the present study is to evaluate the soft and hard tissue dimensional changes following placement of two different socket bone substitutes in Extraction Defect Sounding (EDS) classification type I and type II defects over a period of 6 months.

### **MATERIALS AND METHODS:**

20 patients (10 in each group) selected from the outpatient department of periodontics, Ragas Dental College & hospital, Chennai who are indicated for socket preservation followed by endosseous implant placement and restoration were included in the study. After obtaining the institutional review board approval and the patient's consent socket preservation procedures were carried out on a total of 18 patients using two putty forms of graft materials.

Clinical assessment of soft tissue parameters - gingival biotype, width of keratinized gingiva and mean relative position of marginal gingiva was

done at baseline, 3 months and 6 months. Radiographic assessment was done for changes in the marginal bone levels at the mesial, mid buccal and distal aspect at baseline and 6 months.

**RESULTS:**

In the present study gingival phenotype and width of keratinized gingiva remained the same throughout the study period. Intra-group comparison of both groups showed a statistically significant result in mean relative position of the marginal gingiva from baseline to 6 months. Intragroup analysis for **group 1** (alloplast group) showed crestal bone level changes on the mesial, mid buccal & distal marginal bone from baseline to 6 months time period, whereas **group 2** (allograft group) showed crestal bone level changes on the mid buccal region only for marginal bone at 6 months time period. Similarly Inter-group comparisons of soft and hard tissue parameters were not statistically significant between the groups.

Histological analysis of both putty types of bone graft biomaterials reported 43-55% vital bone and remaining 57-45% percentage of residual graft with new osteoid and fibrous encapsulation.

**CONCLUSION:**

From this clinical study it can be concluded that gingival phenotype and width of keratinized gingiva were maintained throughout the study period, there was statistically significant difference in mean relative position of the

marginal gingiva from baseline to 6 months within the groups. Similarly there were marginal bone level changes in both the groups at the end of study period which was also statistically significant. There is no difference between the groups for soft and hard tissue dimensional changes.

**KEY WORDS**

**EXTRACTION SOCKETS, ALVEOLAR RIDGE PRESERVATION/SOCKET PRESERVATION, PUTTY FORM OF ALLOPLAST AND ALLOGRAFT, SOFT AND HARD TISSUE DIMENSIONAL CHANGES.**