

## ABSTRACT

**Background:** Periodontal therapy aims to prevent periodontal tissue destruction while achieving regeneration of lost and damaged tissues. Autografts are considered as gold standard in concept of regeneration. The extracted tooth which is considered as clinical waste, can be prepared into an autograft for immediate grafting in intrabony defects.

Autogenous dentin graft (ADG) is osteogenic, osteoinductive and osteoconductive and being autograft it has antigenic resistance. This Autograft contains growth factors, BMP, HA and helps in bone neoformation. The purpose of this study was to evaluate the clinical and radiographic effectiveness of autogenous dentin graft in the management of intrabony defects.

**Aim:** The aim of this study was to evaluate the clinical effectiveness of autogenous dentin graft in the treatment of intrabony defects.

**Methods:** A total of 10 intrabony defects were selected randomly for the purpose of the study. After the Phase-I therapy, the defects were treated with autogenous dentin graft. Clinical parameters such as plaque index (PI), gingival bleeding index (GBI), probing pocket depth (PPD), and clinical attachment level (CAL) were recorded at baseline and at 6 months post-operatively. Radiographic analysis including CBCT was performed at baseline, 3 months and 6 months post operatively.

**Results:** Significant reduction in the mean pocket depth and gain in attachment level was observed in as compared to baseline, the reduction in defect depth was significant ( $p=0.001$ ) at the end of 6 months. Greater percentage of bone fill at 3 month  $39.09 \pm 14.62$  and at 6 month  $62.35 \pm 15.59$  were observed. Bone mineral density showed good improvement from at baseline was  $27.10 \pm 42.52$ , at 3 months was  $334.30 \pm 97.61$  and at 6 months was  $727.40 \pm 154.99$  and which was statistically significant ( $p = 0.000$ ).

**Conclusion:** Within the limits of present study it can be concluded that Autogenous dentin graft which is prepared from the extracted teeth which is usually have proved to give promising regenerative results when used in periodontal bone defects. Successful regenerative results have been demonstrated in clinical and radiological parameters including CBCT. Thus in future, clinical trials with larger sample size may be employed to further explore the potential benefits of AUTOGENOUS DENTIN GRAFT as a grafting material in periodontal regeneration.

**Keywords:** autogenous dentin graft, autograft, Intrabony defect, Periodontal Regeneration.