World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:17, No:10, 2023

Horizontal Bone Augmentation Using Two Membranes at Dehisced Implant Sites: A Randomized Clinical Study

Authors : Monika Bansal

Abstract : Background: Placement of dental implant in narrow alveolar ridge is challenging to be treated. GBR procedure is currently most widely used to augment the deficient alveolar ridges and to treat the fenestration and dehiscence around dental implants. Thus, the objectives of the present study were to evaluate as well as compare the clinical performance of collagen membrane and titanium mesh for horizontal bone augmentation at dehisced implant sites. Methods and material: Total 12 single edentulous implant sites with buccal bone deficiency in 8 subjects were equally divided and treated simultaneously with either of the two membranes and DBBM(Bio-Oss) bone graft. Primary outcome measurements in terms of defect height and defect width were made using a calibrated plastic periodontal probe. Re-entry surgery was performed to remeasure the augmented site and to remove Ti-mesh at 6th month. Independent paired t-tests for the inter-group comparison and student-paired t-tests for the intra-group comparison were performed. The differences were considered to be significant at $p \leq 0.05$. Results: Mean defect fill with respect to height and width was 3.50 ± 0.54 mm (87%) and 2.33 ± 0.51 mm (82%) for collagen membrane and 3.83 ± 0.75 mm (92%) and 2.50 ± 0.54 mm (88%) for Ti-mesh group respectively. Conclusions: Within the limitation of the study, it was concluded that mean defect height and width after 6 months were statistically significant within the group without significant difference between them, although defect resolution was better in Ti-mesh.

Keywords : collagen membrane, dehiscence, dental implant, horizontal bone, augmentation, ti-mesh
Conference Title : ICDOH 2023 : International Conference on Dentistry and Oral Health
Conference Location : Tokyo, Japan
Conference Dates : October 09-10, 2023