

A Novel Augmentation Technique in the Aesthetic Zone: Kuru Augmentation Technique-Technical Note



Keremcan Kuru*

Department of Oral and Maxillofacial Surgery, Izmir Katip Celebi University, Turkey

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***Corresponding author:** Keremcan Kuru, Department of Oral and Maxillofacial Surgery, Izmir Katip Celebi University, Izmir, Turkey

Opinion

The alveolar structure in the anterior single tooth missing area which has been resorbed, complicates the implant placement procedure [1]. In order to recover the hard and soft tissue, it is aimed to graft the defected area and perform immediate prosthetic restoration with implant placement simultaneously [2]. In the repair of the alveolar defect, minimal flap elevation makes it difficult to place the membrane and inhibition of the contact of the graft material, placed between the membrane and the crest, with connective tissue in the apical region cannot be controlled [3].

With this novel technique, the membrane which has been turned into a square box creates a stopper between the graft and the soft tissue in the apical region. In addition, the rigid structure of the “box membrane” provides a space in augmentation area acting as a tent. Thus, grafting procedure can be done in a controlled manner and graft resorption can be reduced by preventing flap pressure on the graft material.

Technique

In the area where the implant placement is planned, crestal incision which is palatally positioned is extended to a distance of 2mm from adjacent papilla's and combined with short vertical incisions. After dental implant is placed in the existing alveolar bone, flap is released using tunnel method gently. The barrier membrane is cut into 3 equal parts as shown in the (Figure 1). The outer parts are folded and turned inside, then closed on the middle part, so the membrane turned into a box corner. Overlapping parts are fixed with a resorbable suture. The part of the barrier membrane formed as a box corner will remain in the apical of the flap, and the concave part is placed in the region with the alveolar crest facing. The space between the barrier membrane and the crest is filled with particulate graft material. The flap is sutured by placing temporary restoration or healing cap on the implant (Figure 2).

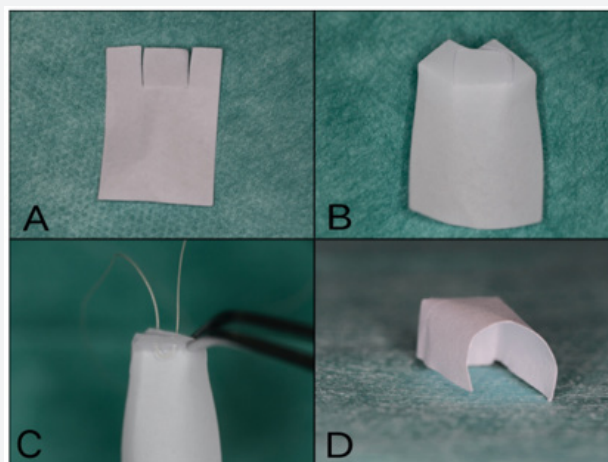


Figure 1: A. Cutting the barrier membrane into 3 equal parts. B. Outer parts turned are folded and turned inside. C. Fixing the overlapping parts with resorbable suture. D. Barrier membrane turned into a box form.

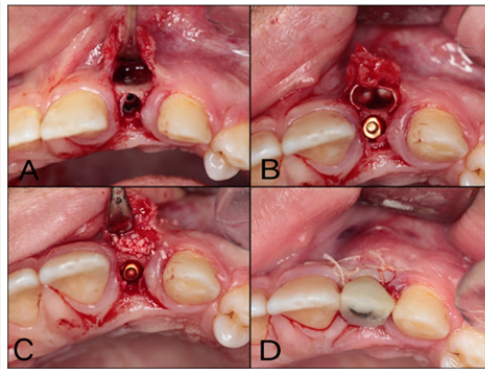


Figure 2: A. Implant placement in the defect area and exposure of the grooves. B. Placing the box membrane and creating a space in augmentation area. C. Filling the space with particulate graft material. D. Placement of the temporary fixed restoration.

Advantages

In the single anterior tooth loss regions, double-stage surgery is frequently performed to repair alveolar crest resorption and the total healing time is extended [4]. In addition, during augmentation procedure, a wide flap is releasing in order to place the biomaterials that are intended to act as tent, this causes the recession of the adjacent gingiva and increasing the post-op pain and edema [5].

Conclusion

With this new method, resorbed alveolar crests can be repaired with a minimally invasive approach, and fixed restorations can be performed immediately, therefore this approach enables the recovery of hard and soft tissues.

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