Alveolar ridge preservation using dense-PTFE membrane without the need of primary closure.

Arapi I¹., Katsoulas V²., Chatzichalepli C²., Chliaoutakis A²., Ntagiantis G².,
Oikonomou M²., Paschalidi P²., Vlachaki A²., Christopoulos P³.

1: Dentist
2: Postgraduate Student
3: Assistant Professor

**Department of Oral and Maxillofacial Surgery,
Dental School, National and Kapodistrian University, Athens**

Background and Aim

Resorption of the alveolar crest, especially of the buccal plate, characterizes the healing extraction socket. Therefore, reduction of the vertical and horizontal dimension of the extraction site compromise the aesthetics and complicate rehabilitation. Alveolar Ridge preservation (ARP) has shown excellent results, minimizing the dimensional changes in order to facilitate an easier restoration especially when dental implants are used. The purpose of this poster is to present a series of 16 cases where ARP was performed with the use of dense-PTFE non-resorbable membrane in combination with different kind of bone grafting materials.

Methods and Materials

ARP was performed in 16 patients with 21 extraction sites. The most prevalent region was anterior maxilla with a total of 8 cases, followed by 5 cases performed in posterior maxilla, 2 cases in posterior mandible and 1 case in anterior mandible. After extraction, the socket or the defect of the alveolar ridge was filled with allogeneous bone graft, xenograft or with a combination of allogeneous and autogeneous bone graft with proper condensation. A dense-PTFE non-resorbable membrane was placed in order to cover and protect the grafts. The membrane was placed passively under the flaps and then complementary sutures were placed to enable its stabilization without the need of primary closure. Patients were advised to clean the exposed membrane area with chlorhexidine. After one month of healing the membrane was removed and the graft materials were covered with a non-keratinized soft tissue.

Results

- a. Initial image (1,2)
- b. Post extraction socket
- c. Position of dPTFE membrane and grafting material
- d. Stabilization of the membrane and suturing
- e. Healing after 4-6 weeks post-operatively (1,2)

Conclusion

Maintaining hard and soft tissue volume and quality after extraction is very challenging. A technique which achieves both is of great value to the clinician. Alveolar ridge preservation using d-PTFE membrane in combination with different bone grafts is a technique with predictable results achieving best possible results for the patient. However, proper training in hard and soft tissue management is necessary to avoid potential complications and to achieve successful outcomes.

References

1. Mandarino D et al, "Alveolar ridge preservation using a non-resorbable membrane: randomized clinical trial with biomolecular analysis." Int. J Oral Maxillofac Surg. 2018 Nov;47(11):1465-1473. doi:10.1016/j.ijom.2018.06.011. Epub 2018 Jul 14.
2. Carbonell JM et al, "High-density polytetrafluoroethylene membranes in guided bone and tissue regeneration procedures: a literature review." Int J Oral Maxillofac Surg. 2014 Jan;43(1):75-84. doi: 10.1016/j.ijom.2013.05.017. Epub 2013 Jun 28.