

Use of nonresorbable PTFE membranes in preservation of the alveolar ridge

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INTRODUCTION

One of the most frequently performed interventions in current oral surgical practice is the extraction of teeth. After the extraction, a biological remodeling phase of the alveolar ridge follows, resulting in resorption of the alveolar ridge both vertically and horizontally. To a large extent, this has the effect of installing a dental implant at this point. In order to maintain the width and height of the alveolar ridge, a large number of operative techniques for preserving the extraction wound are used.

In our article, a preservation technique will be presented using the non-resorbable dPTFE membrane, which allows open healing of the extraction wound, and xenograft will be used as a substituted material. Also, the application procedures and fixation of these dPTFE membranes will be explained in detail, and the results of this technical procedure will be presented.

Indications for use of these High Density PTFE Barrier membrane:

- ❑ Socket and ridge preservation (open healing)
- ❑ Horizontal/vertical augmentation
- ❑ Fenestration and dehiscence defects
- ❑ Intrabony defects (1- 3 wall)
- ❑ Furcation defects (class I and II)

❑ Case report 1



Fig.1 Present four root and periapical process with persistent clinical symptom

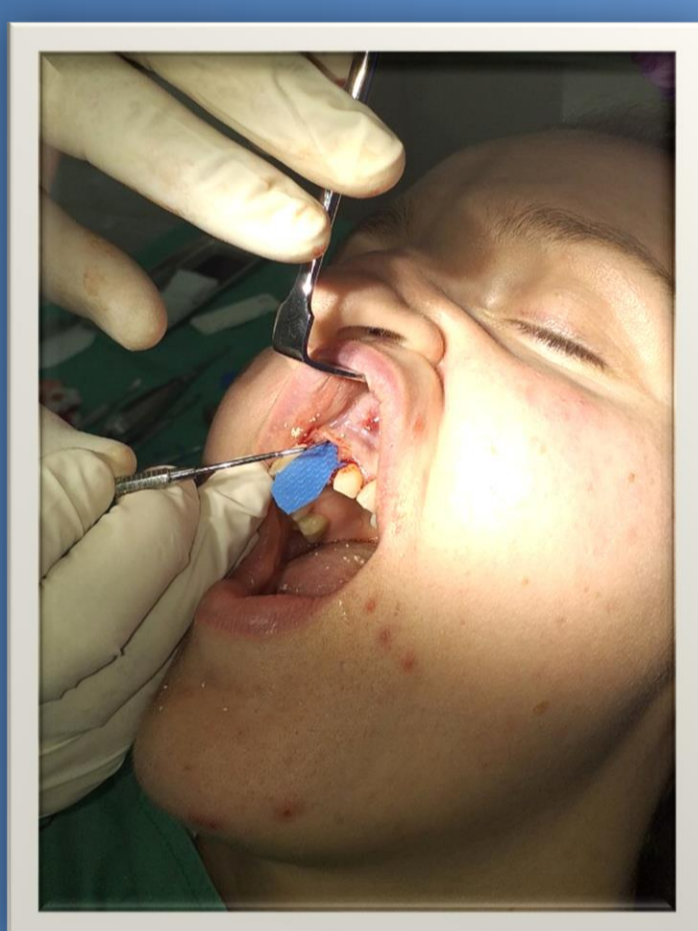


Fig.2 Application of the membrane

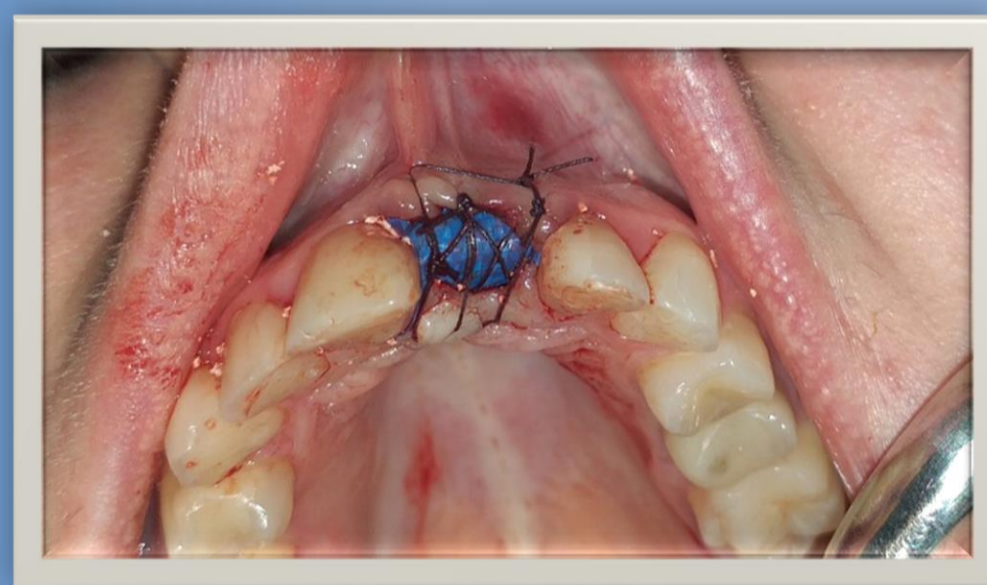


Fig.3 Fixation of the membrane with non resorbable sutures

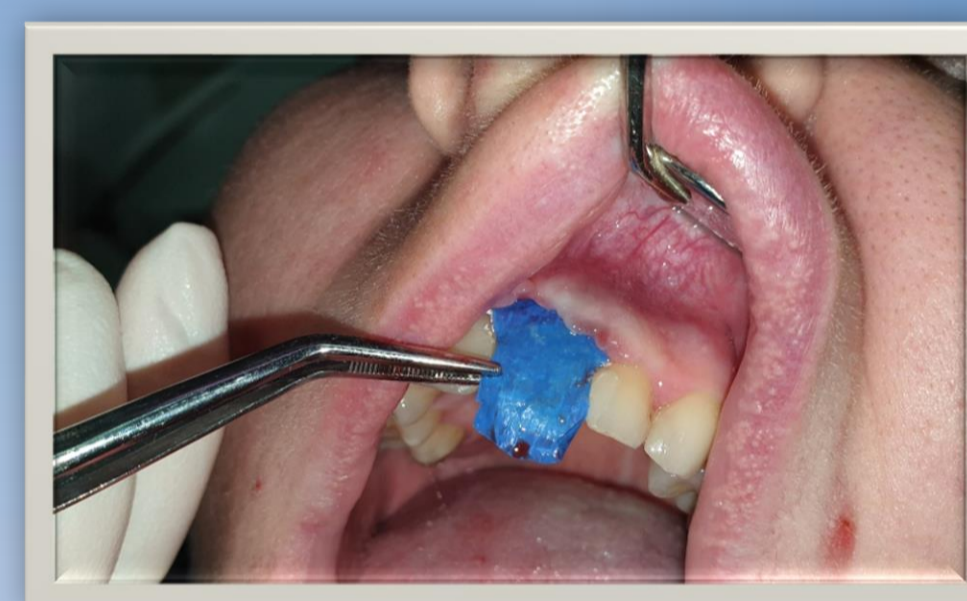


Fig.4 Removal of the membrane after 4 weeks

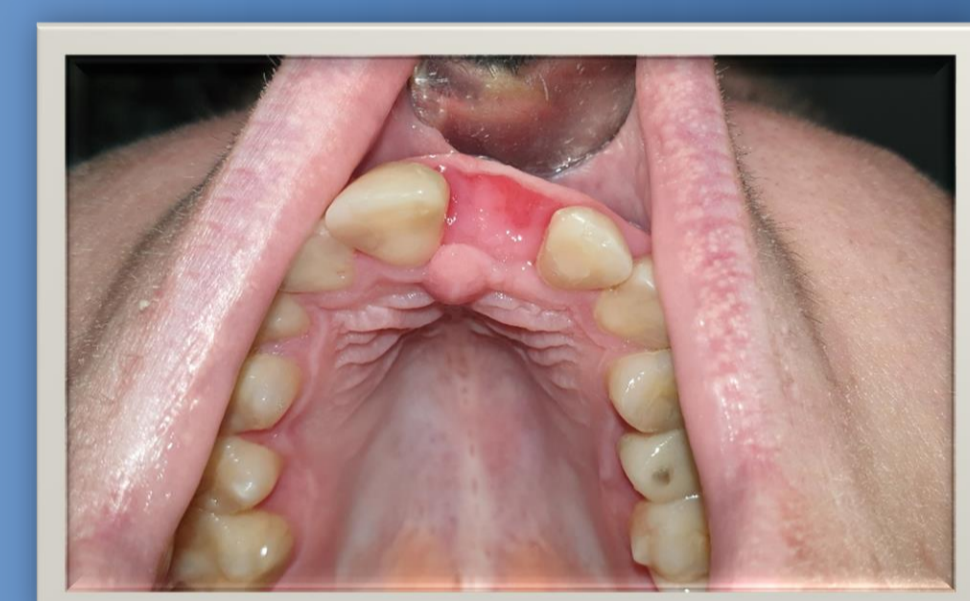


Fig.5 Complete reepithalisation of the wound



Fig.6 Rtg findings of the wound and graft matherial

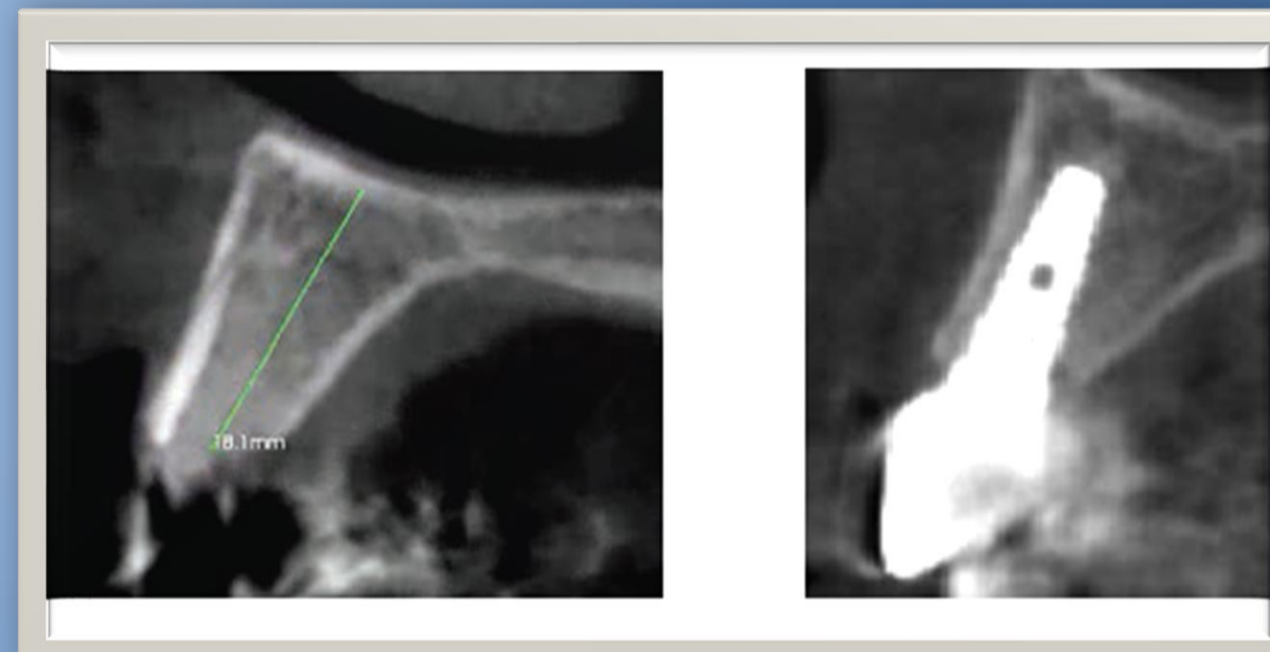


Fig.7 3D CT of the wound and of the implant



Handling Tips:

Handling : permamem® can be easily manipulated and applied thanks to its thin character (thickness ~ 0.08 mm). The rounded edges of the membrane avoid traumatization of the soft tissues. In open healing procedures, permamem® may easily be removed after the healing time in a non-surgical way with a pair of tweezers. The blue color allow for easy recovery of the membrane.

Fixation: permamem® should always be immobilized at the recipient site by pins, screws or sutures. For socket and ridge preservation, permamem® can be sutured to the periosteum or a periosteal flap to achieve a tight adaptation of the membrane to the recipient site.

Shaping: The membrane can be cut to the desired shape and size with a pair of scissors or a scalpel while maintaining sterility.

Removal: permamem® should be removed after 3-4 weeks. An exposed membrane may be easily removed with tweezers. If primary closure is obtained during membrane placement, opening of the surgical site will be required to remove the membrane. After removal of permamem®, the primary healing process and the reepithelialisation of the regenerating soft tissue will be completed within one month.

❑ Case report 2

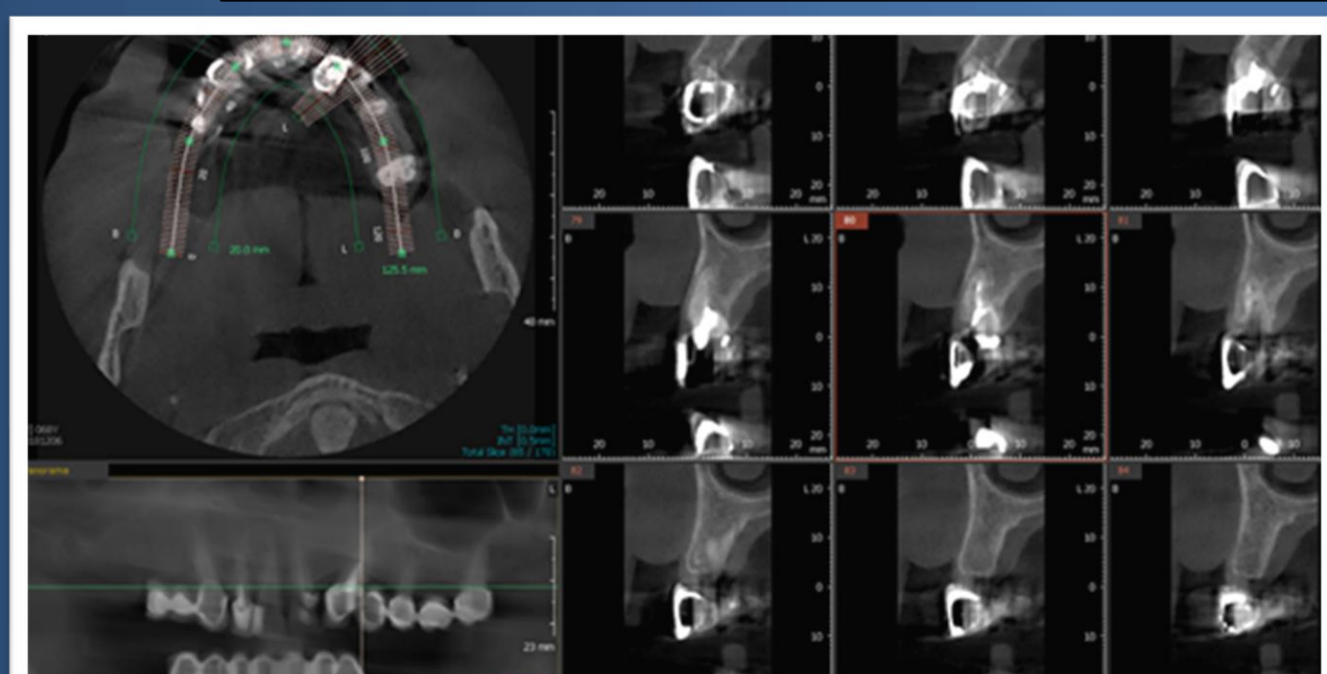


Fig.1 3D CT of the upper jaw

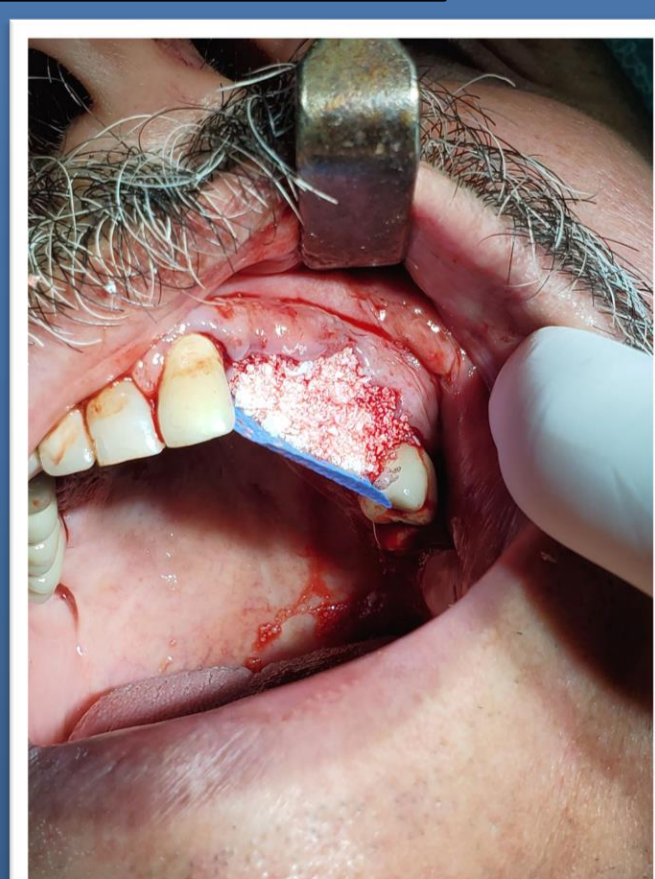


Fig.2 Application of the graft matherial and PTFE membrane



Fig.3 Fixation of the membrane

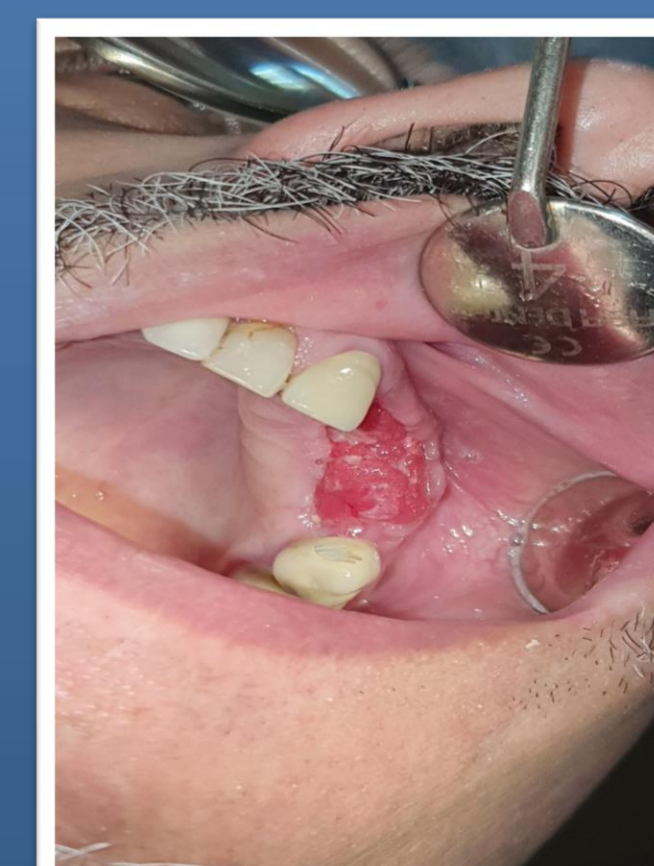


Fig.4 Wound healing after 4 weeks

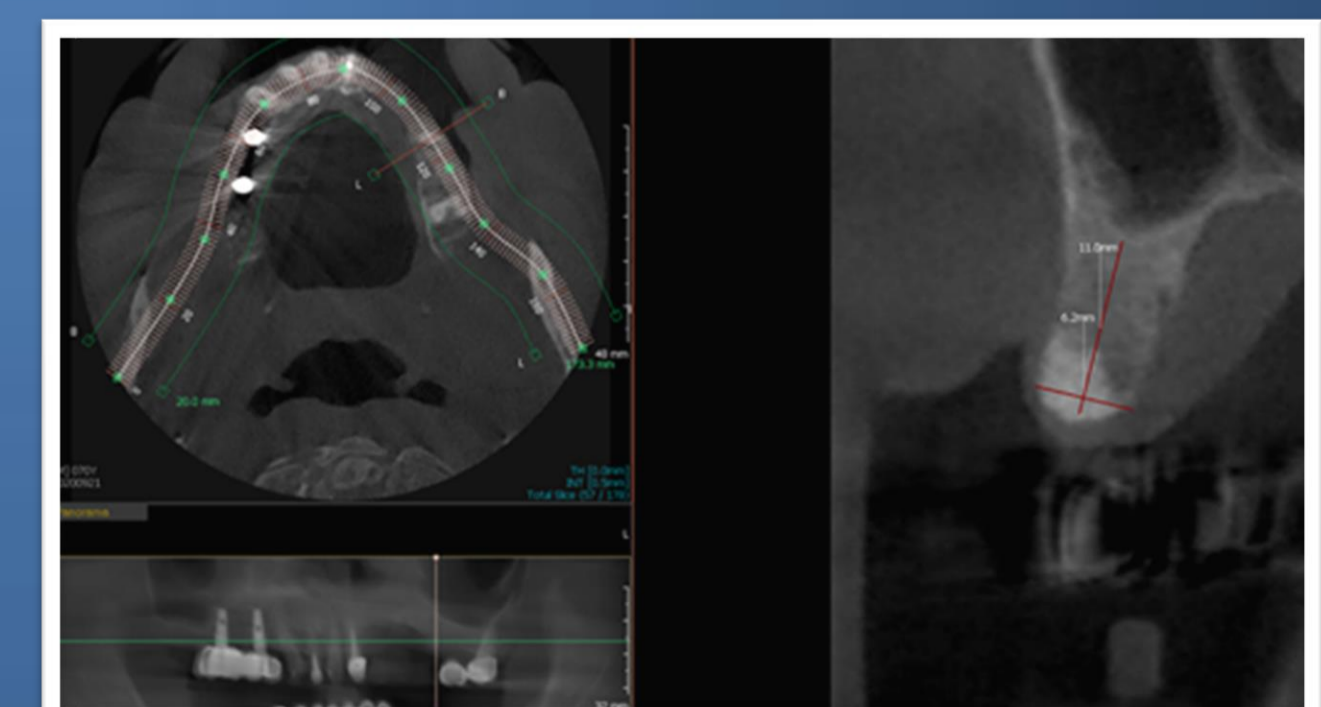


Fig.5 Complete incorporation of the graft matherial

CONCLUSION

The use of non-resorbable PTFE membranes in everyday practice during oral surgery is indicated in all cases of alveolar ridge preservation. Working with this membrane is very simple, as well as its application and removal. This membrane is particularly suitable for preserving bone graft material during open wound healing of the extraction wound. Manipulation of this membrane gives a predictable outcome by preserving the alveolar ridge both horizontally and vertically.