Ridge-Preservation with a ribose-crosslinked porcine collagen membrane

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Abstract

It is known that volume loss after tooth extraction can be successfully reduced by Socket- and Ridge-Preservation techniques using a combination of bone substitutes covered with a punch graft from the palate. To avoid the second operation area, the author uses a slow-resorbing ribose-crosslinked porcine collagen membrane with comparable results.

Background and Aim

After tooth extraction remodelling processes of the extraction socket lead to a deficient bone volume in various cases. If implant placement is planned to reconstruct the edentulous areas, aesthetic problems are frequently seen. Especially in the anterior region these areas present a concave morphology and can lead to second stage surgery. Reducing the bone volume loss at the time of tooth extraction by means of immediate augmentation of the extraction socket (Socket-/Ridge Preservation) could help the surgeon to place the implant in a better position to avoid second stage surgery for the patient.

Methods and Materials

After tooth extraction, the extraction socket was cleaned, filled with a bone substitute and covered with a slow resorbing ribose-crosslinked porcine collagen membrane (OSSIX® PLUS, REGEDENT GmbH, Dettelbach, Germany). No complete wound closure was performed. The membrane was exposed from the beginning. To guarantee a sufficient stabilization of the membrane for the healing period, the membrane was placed slightly underneath the elevated tissue. For suturing monofilament sutures were used (Seralene®, SERAG-WIESSNER GmbH & Co. KG, Naila, Germany). Sutures were removed after 7 days. After 5 months, the implant was placed. The surrounding tissue showed no inflammation or scars. Only a slight resorption was visible.

Tooth 26 - before extraction

X-ray - tooth 26

Separation before extraction

Extraction socket

Exposed membrane with cross-suture fixation

Wound healing after 1 week, healthy soft tissue, membrane still visible

Soft tissue situation after 5 months before implant placement

Bony situation after flap reflection before implant placement

Video:

Extraction procedure and use of OSSIX® PLUS membrane. The membrane was left exposed on purpose. Soft tissue suturing was performed with monofilament sutures (6-0)

Situation after implant placement

Soft tissue clousure with monofilament sutures

Situation after implant uncovering and a healing period of 4 Weeks

Final restoration

Results

During the ridge preservation procedure as well as during the implantation there were no complications. The membrane remained intact until full soft tissue closure. At reentry for implantation after 5 months, the texture of the membrane was still visible. This verifies the long resorption time of 4-6 months.

Conclusions

Ribose-Crosslinked porcine collagen membranes can be used for socket- as well as for ridge-preservation techniques. Due to the good clinical results, even after membrane exposure, the author considers the membrane as helpful and easy to use.

References

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