ALVEOLAR CREST CONSERVATORY TECHNIQUE USING THE GRANULAR XENOGEN GRAFT

[1]MARIANA SABAU, [2]V. NICOLAE, [3]DANA DUMITRA

[1,2]"Lucian Blaga" University of Sibiu, [3]PhD candidate, "Lucian Blaga" University of Sibiu

Abstract: *In most of the cases, the bone offer is not enough for the implant insertion. The guided bone regeneration presents indications, both in the conservation of the edentulous alveolar crests immediately after extraction, in the localized augmentation of the edentulous alveolar crest (augmentation done before or simultaneously with the implant insertion), and in the treatment of some complications of the implant treatment such as: the periimplantitis, dehiscences, fenestrations and crater like bone defects around the implant. In this study, we have used xenogeny grafts Geistlich Bio-oss Collagen, as well as Geistlich Bio-Gide membranes for conserving the alveolar crests, the results of their use being more than satisfactory .*

Keywords: *implant insertion, alveolar crests, grafts*

Rezumat: *În majoritatea cazurilor, oferta osoasă este insuficientă inserţiei implanturilor. Regenerarea osoasă ghidată prezintă indicaţii atât în conservarea crestelor alveolare edentate imediat postextracţional, în augumentarea localizată a crestei alveolare edentate (augumentare realizată înainte sau simultan inserţiei implanturilor) dar şi în tratarea unor complicaţii ale tratamentului implantologic precum periimplantitele, dehiscenţele, fenestraţiile şi defectele crateriforme osoase periimplantare. În studiul de faţă s-au folosit grefe xenogene Geistlich Bio-oss Collagen dar şi membrane Geistlich Bio-Gide pentru conservarea crestelor alveolare, rezultatele folosirii acestora fiind mai mult decât satisfăcătoare.*

Cuvinte cheie: *inserţie implant, creastă alveolară, grefă*

INTRODUCTION

The conservation of the alveoli and the bone crests as a treatment method offers a variety of practical advantages

- An optimal result concerning the aesthetics, especially in the extractions done in the regions that require aesthetics
- Therapeutic window extended in time for an implantation flexible time period
- In the conventional prosthetics of the structures (prosthetic restorations through bridges) the tissues below the edentulous regions can be conserved for a longer period
- The reduction in the invasive treatment methods

Aspects of the alveolar conservation in two steps using as augmentation material xenogeny and free mucous membrane graft

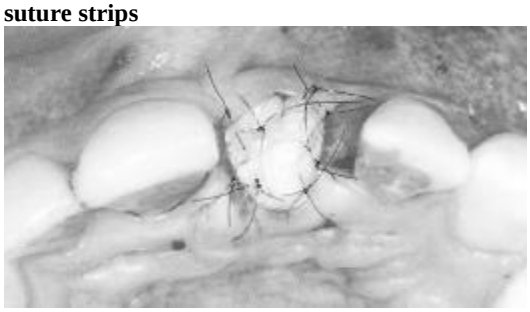
In this case the conservation of the alveolar crest is desired through augmentation with xenogeny graft Bio-Oss Collagen for the future implant insertion and for the prospective correction of the bone damage after introducing the implant in a correct prosthetic position. It has also been used free mucous membrane graft. (Pictures 1,2,3,4)

Advantages: the long time conservation of the volume of the crests

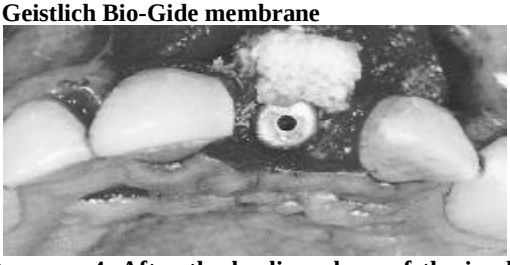
Disadvantages: the necessity of a second surgical intervention

Picture no. 1. The application of a quantity of Geistlich Bio-oss Collagen corresponding to the tooth root

Picture no. 2. The graft of free mucous membrane over the Geislich Bio-oss Collagen is carefully placed at the level of the marginal gum with 6-8 separate suture strips



Picture no.3. 6 weeks after the implant insertion in the correct prosthetic position Geistlich Bio-oss is applied in the remaining bone deffect and it is covered with the Geistlich Bio-Gide membrane



Picture no. 4. After the healing phase of the implant there is a strong connexion of the implant abutment. 2.1 The contour of the crest is well conserved

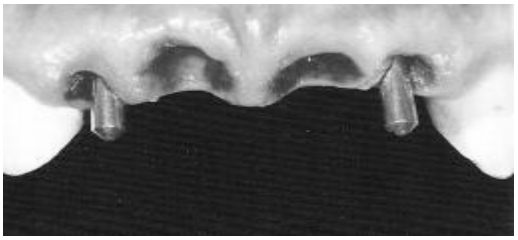
The conservation of the alveoli using xenogeny granular graft immediately after extraction and for prosthesis through dental bridges

This case introduces a situation of PMCP with teeth extrusion and mobility where the treatment solution has been the implant-prosthetic treatment. For the conservation of the alveolar crest in the area of the extracted central incisors we have used xenogeny granular graft, also aiming for the aesthetic result after the augmentation by conserving the structures and the soft tissues around. (Pictures no. 5,6,7,8)

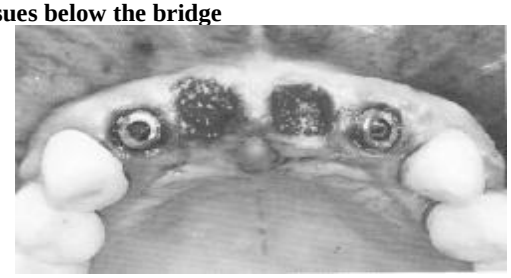
Advantages: the long term conservation of the alveolus volume, a simple method for conserving the alveolar structures and the shape of the soft tissues.

Picture no. 5. Severe atrophies in the region 1.2-2.2

Picture no. 6. The immediate implant in the region 1.2-2.2



Picture no.7. Conserving the crests- filling up the remaining crests after the extraction of 1.1 and 2.1 with Geistlich Bio-oss for conserving the volume of the tissues below the bridge



Picture no. 8. Frontal view after wearing the bridge for 5 months. The alveolar crest below the bridge is well conserved.

The survival rate of the implants after the Geistlich Bio-oss graft and with autogenuous bone has been analised after a study which consisted of bone granular xenogeny graft combined with autogenuos bone in the maxilary sinus area on a 5-year period. The patients had a graft with a mixture of 70 % autogenuos bone and 30 % Geistlich Bio-oss. It has also been examined if there is a difference betwen the implant insertion in one step and in two steps. For this purpose, 30 patients (48 sinuses) with class V and VI atrophy (after Cawood and Howell) have been evaluated consecutively.

According to the quantity of the remaining bone, the implants have been inserted simultaneously with the augmentation material (one step technique)or after a period of time (2 step technique) All the patients have been observed for one year after the graft operation, some even for 5 years. The results have shown a high survival rate if the sinus lifting has been done in combination with Geistlich Bio-oss and with autogenuous bone, even with a residual bone crest of minimum height.

The survival rate has been improved if the two steps technique has been applied.

The advantages of using the xenogeny bone (Bio-Oss)and the Geistlich membranes in the treatment of the periimplantitis

In this study, 22 patients with mild or severe periimplantitis with defects within the bone have been each treated with Geistlich Bio-oss and Geistlich Bio-Gide or with nanocristals of hidroxiapatitis (Ostim- the refference group) The patients have been summited to a check up before the treatment but also at 12, 18, 24 after the two phase healing.

The group with Geistlich Bio-oss combined with

Geistlich Bio-Gide has shown, by comparison with the refference group, after 24 months, out of clinical point of view, a high decrease of the depth of the periodontal peri-implant bag (2.4±0.8mm by comparison with 1.5±0.6mm) The decrease in this level of attachment has been more than 2mm in 70 % of the patients. Only 22% of the patients from the reference group have reached this result

The results of this study indicate the fact that, when the peri-implantitis-es are treated with Geistlich Biomaterials there are more numerous and constant results obtained 2 years after the operation.

The importance of using the Geistlich membrane in the perforation of the Scheider membrane

The most frequent intraoperatory complications in the achievement of the sinus lifting are represented by the perforation of the Scheider membrane. The rates in the specialty literature vary between 11% and 56 %.

The restauration of the membrane is necessary in most of the cases to establish the graft and to end the treatment successfully. This is why there are introduced new techniques for the restoration of the grater perforations of the Scheider membrane.

In 20 patients with large penetrations of the membrane, the Geistlich Bio-Gide has been positioned outside the opening of the maxilary sinus and after that it has been pushed inside to form a horizontal limit which can cover the perforation or with a bag that can hold all the transplant material. The patients have been observed during 6 and 9 months after this intervention. The success of the Scheider membrane restauration, of the sinus health and of the excellent bone regeneration has been highlighted histologically and through X-rays .

The study done by H. Alfro and others confirm the posibility of the reliability of the membrane method.

CONCLUSION

The use of the Geistlich Bio-oss or the Geistlich Bio-Collagen appears to be decisive for the long term success in the therapy of the remaining alveoli after the extractions, in the case of the narrow alveolar crest augmentation, of the periimplantitis treatment, in the augmentation of the maxillary sinus, in the perforation of the Scheider membrane. The studies indicate that during the guided bone regeneration :the Geistlich Bio-oss organic bone matrix easily absorbable keeps the long term volume of the tissues and this represents an essential contribution in the success of the therapy.

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