

SCIENTIFIC ABSTRACTS

INTERNATIONAL PUBLICATIONS ON OSTEOBIOL® BIOMATERIALS

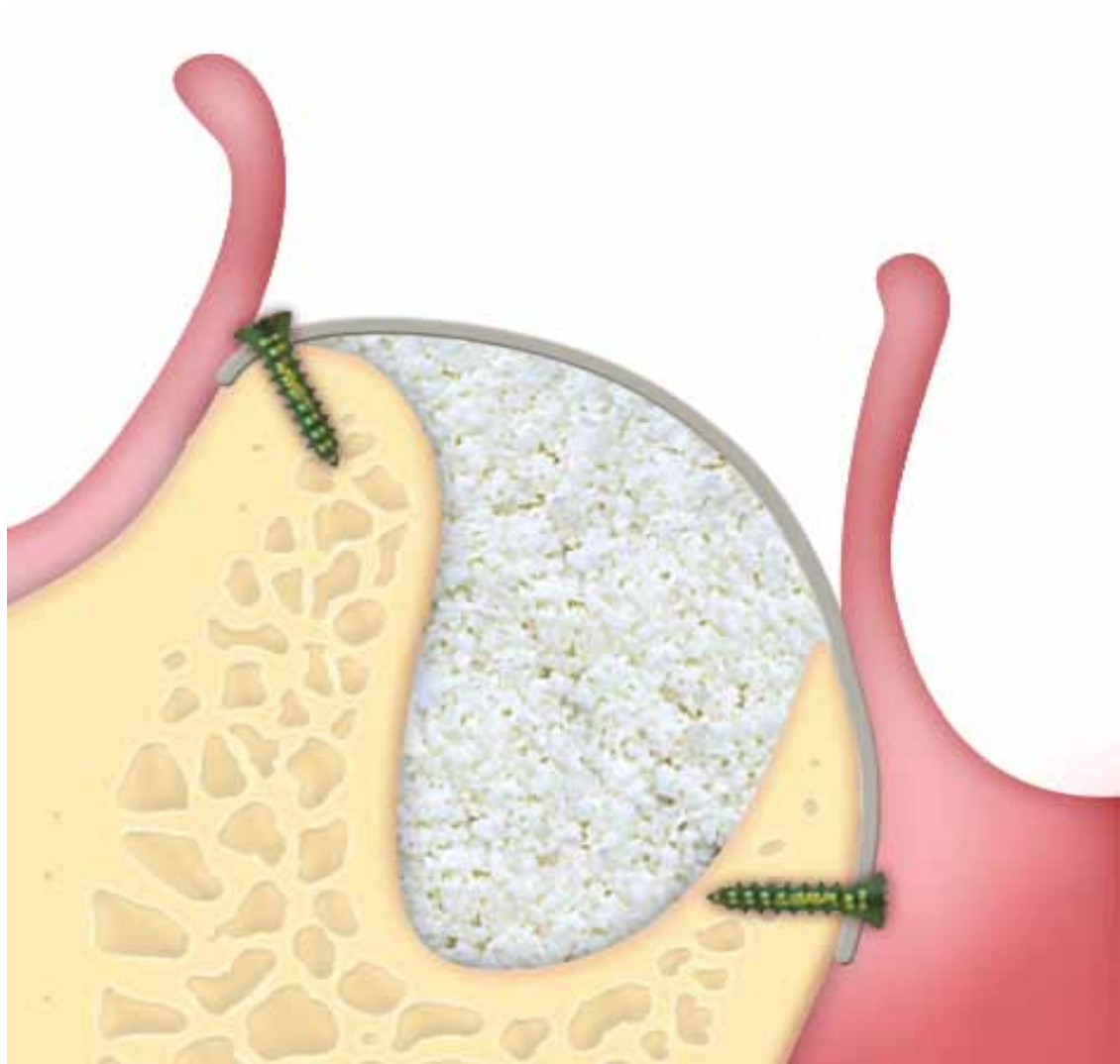
OsteoBiol®
by Tecnos

REGENERATION SCIENCE

INSPIRED BY NATURE



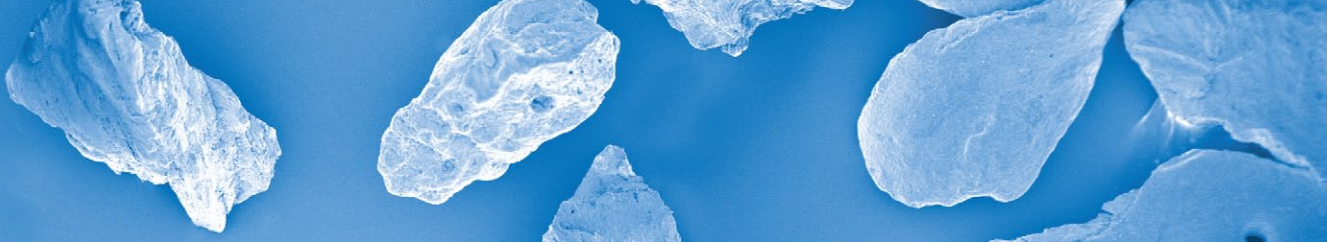
Aumento horizontal



OsteoBiol[®]
by TecnoSS

REGENERATION SCIENCE

INSPIRED BY NATURE



OsteoBiol®
by Tecnos

HORIZONTAL AUGMENTATION

011

A Barone¹
U Covani¹

¹ | Department of Oral Pathology and Oral
Medicine, Nanoworld Institute, School of Dental
Medicine, University of Genova, Italy

ORIGINAL ARTICLE

Journal of Oral and Maxillofacial Surgery
2007 Oct;65(10):2039-46

Grafted with
BONE SUBSTITUTE
OsteoBiol® mp3®

Maxillary alveolar ridge reconstruction with nonvascularized autogenous block bone: clinical results

ABSTRACT

Implant treatment of severely resorbed maxillas is considered a demanding procedure, characterized by a higher failure rate compared with the implant treatment of patients with adequate bone volume.

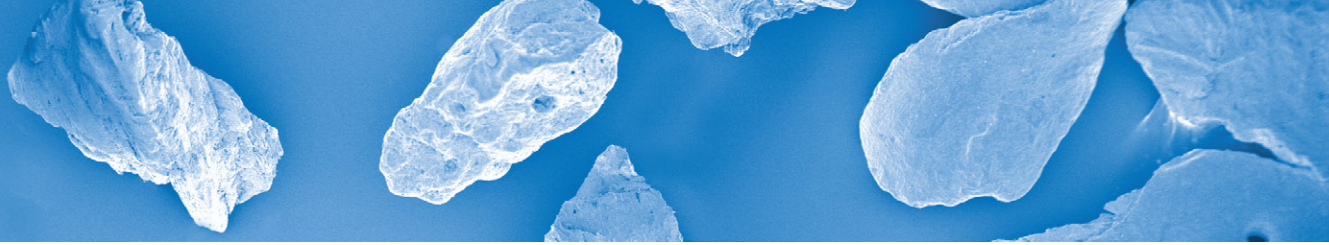
In this study, 56 patients (18 men, 38 women) aged 27 to 63 years, requiring a treatment for maxillary atrophy, were selected and scheduled for onlay bone graft and titanium implants in a 2-stage procedure, with the purpose to evaluate the clinical success of bone reconstruction of the severely atrophic maxilla using autogenous bone harvested from the antero-superior edge of iliac wing. Moreover, the Authors analyzed the clinical success and the marginal bone level of dental implants placed 4 to 5 months after bone grafting and before prosthetic rehabilitation.

A total of 129 onlay bone grafts were used to augment the 56 severely resorbed maxillas. The cortico-cancellous blocks harvested from the iliac wing were adapted to the atrophic maxilla and attached to the residual ridge with self-tapping screws (Cizeta, Milano, Italy). An additional mixture of cortico-cancellous porcine bone particle and collagen (OsteoBiol® mp3®, Tecnos®, Giaveno, Italy) was placed at the periphery of the block grafts.

The augmentation procedure allowed the insertion of implants in the grafted area 4 to 5 months after surgery. The clinical and radiographic observations showed a satisfactory success rate rate (96,8%) of the block and a very low rate of resorption after bone graft and implant placement.

CONCLUSIONS

The use of iliac bone grafts, harvested from the antero-superior edge of iliac wing, for the reconstruction of severely atrophic maxillas, combined with the supplementary use of a mixture of cortico-cancellous porcine bone particle and collagen, showed to be a reliable treatment procedure.



OsteoBiol®
by Tecnos

HORIZONTAL AUGMENTATION

064

H Wachtel¹
S Fickl²
M Hinze³
W Bolz³
T Thalmair³

1 | Private Practice, Munich, Germany; Clinical Associate Professor, Department of Restorative Dentistry, Charité - Medical University, Berlin, Germany
2 | Clinical Assistant Professor, Department of Periodontology, Julius-Maximilians University, Würzburg, Germany
3 | Private Practice, Munich, Germany

ORIGINAL ARTICLE

International Journal of Periodontics
Restorative Dentistry
2013 Jul-Aug; 33(4):491-7

Grafted with

BONE SUBSTITUTE
OsteoBiol® mp3®

MEMBRANE
OsteoBiol® Evolution

BONE BARRIER
OsteoBiol® Lamina

The Bone Lamina Technique: a novel approach for lateral ridge augmentation - a case series

ABSTRACT

Even if nowadays dental implants are considered a successful option for the treatment of edentulousness, resorption of the alveolar ridge is still a concern as it may interfere with optimal three dimensional implant placement. In order to overcome this problem, different guided bone regeneration (GBR) technique have been suggested. As collagen membranes and nonresorbable membranes reinforced with titanium both present some drawbacks, in this case series the Authors present a different treatment approach for lateral ridge augmentation, called "Bone Lamina Technique". This technique uses a xenogenic cortical bone shield in combination with particulated bone substitutes and a thin collagen barrier, resulting in a biocompatible and mechanically stable concept for space maintenance and blood clot protection.

Four systemically healthy patients (aged 48 to 59 years) with inadequate dental alveolar ridge widths were selected for inclusion. All ridge defects were augmented using a xenogenic cortical bone shield (OsteoBiol® Lamina, Tecnos®, Giaveno, Italy) in combination with a particulated bone substitute (OsteoBiol® mp3®, Tecnos®) and a thin collagen barrier (OsteoBiol® Evolution, Tecnos®) positioned on top of the bone Lamina. At re-entry surgery, biopsy specimens were harvested for histologic analysis and the results revealed a sufficient amount of bone structure for implant placement without additional augmentation procedures.

CONCLUSIONS

After the GBR, in all cases it was possible to place one or two implants without the need for additional augmentation procedures. Postoperative healing was uneventful, and clinically healthy mucosa without signs of infection covered the defect after 5 to 6 days.

The Authors affirmed in their conclusions *"this case series inaugurated a novel clinical approach for lateral ridge augmentation, the Bone Lamina Technique. Re-entry surgery revealed that sufficient amount of bone was achieved in all treated cases and implants could be placed without an additional augmentation procedure. Histology revealed osteoconductive properties of the material and also indicated that resorption of the cortical Lamina had taken place. Therefore, this approach may have the potential to act as a biologic and stable barrier technique for augmentation procedures"*.



MA Lopez¹
M Andreasi Bassi¹
L Confalone¹
F Carinci²

¹ | Private practice, Rome, Rome, Italy
² | Department of Morphology, Surgery and
Experimental Medicine, University of Ferrara, Ferrara,
Italy

ORIGINAL ARTICLE

Journal Of Biological Regulators & Homeostatic
Agents
2015 Jul-Sep;29(3 Suppl 1):97-100

Grafted with

BONE SUBSTITUTE
OsteoBiol® mp3®

MEMBRANE
OsteoBiol® Evolution

BARRIER - BONE SUBSTITUTE
OsteoBiol® Lamina

Regeneration of atrophic crestal ridges with resorbable lamina: technical note

ABSTRACT

Block grafts, both autologous and heterologous, and titanium grids are frequently used in surgical procedure aiming to increase the mandibular bone base, both horizontally and vertically, for implant purposes in atrophic distal ridges. In case of autologous block grafts, it is necessary to perform one operation in a donor site and a second one in the recipient site, with a considerable discomfort for the patient. Heterologous block grafts do not need two operations, but they do need the use of synthetic screws and pins for their fixation. Titanium grids are manageable with difficulties in the event of exposure and are removed with difficulty. In this work, a technique is proposed for the reconstruction of vertical and horizontal atrophic ridges with the use of a resorbable biomaterial of porcine origin, the cortical lamina, together with the collagenated and pre-hydrated granules and resorbable membranes of mesenchymal tissue (OsteoBiol® Lamina, OsteoBiol® mp3®, OsteoBiol® Evolution, TecnoSS®, Giaveno, Italy). Ten patients, 3 males and 7 females, aged between 30 and 58 years, received a procedure of mandibular bone regeneration of atrophic ridges, with the insertion of a total of 16 implants. The implants were stabilized on the basal bone, leaving a gap between the lamina and the surface of the implant itself so that it could be filled with osteoconductive biomaterial. A collagen membrane was used to slow resorption (OsteoBiol® Evolution, TecnoSS®) and to occlusally cover the defect. After 6 months, it was possible to see newly formed bone around the implants, and the complete integration of the previously inserted lamina.

CONCLUSIONS

The results demonstrated that the use of porcine cortical laminae with a thickness of 0.9 mm allows for the creation of a rigid moldable box, in which it is possible to use collagenated and granulated fillers that can be easily reached by blood vessels and transformed into bone in order to act as a support for the implant load. It has been demonstrated the good vascularization of the graft combined with the integration of the lamina, which does not need to be removed. Consequently, the Authors concluded "our results allow us to propose this technique as a potential alternative to those used to date".

The use of a collagenated porcine cortical lamina in the reconstruction of alveolar ridge defects. A clinical and histological study

ABSTRACT

In case of hard tissue volume lack, the use of resorbable and non-resorbable membranes has been proposed in order to allow a proper alveolar ridge reconstruction. After the evaluation of the clinical advantages and disadvantages of different biomaterials normally used for this purpose, the Authors suggest that the use of a collagenated porcine cortical barrier seems to have relevant clinical advantages, including: the long-term stability of the membrane; its plastic consistency, well suited for the vertical reconstruction; the absence of a second re-entry surgery for its removal; the quality of integration with the native bone and the appositional graft; the second intention healing with keratinized mucosa in case of exposure and the poor presence of connective tissue over the regenerated bone.

The present pilot study included 8 partially edentulous patients (6 females and 2 males, mean age: 45 years) requiring bone regeneration procedures to achieve a prosthetically driven implant placement, with the aim to clinically and histologically evaluate the use of a collagenated porcine bone lamina in case of lateral and vertical bone augmentation procedures, in conjunction with porcine-derived bone particles. The bone graft consisted of a porcine-derived collagenated bone (OsteoBiol® mp3®, Tecnos®, Giaveno, Italy) whereas the membrane consisted of a porcine-derived collagenated cortico-cancellous shield (OsteoBiol® Curved Lamina, Tecnos®). The membrane is a soft cortical lamina derived from cortical porcine bone, with a plastic consistency, and can be shaped with sterile scissors to reach the desired size, and adapted to completely cover the grafting site.

The histological examination showed porcine bone to have osteoconductive properties, with the presence of new bone on the surface of the porcine bone particles. The Authors also found evidences of osteoclastic resorption, with no signs of foreign body reaction. Further, at the coronal part of the defect, a well vascularized connective tissue was found and this might suggest a certain porosity of the membrane, which allows vascular cells ingrowth and new vessels formation, attesting the biocompatibility of the shield.

CONCLUSIONS

The present study showed good clinical results when using a porcine bone substitute and a collagenated cortical lamina for the augmentation of the alveolar crest. A curved bone lamina was employed, with the clinical advantage of its adaptation to the alveolar crest, guaranteeing an optimal contour of the regenerated bone.

As the Authors stated in their conclusion: *"It may be assumed that the combination of a slowly resorbing cortical bone shield facing the inside of the defect and a biocompatible and tissue friendly collagenated membrane facing the outside could have the potential to simplify the achievement of the desired results without depending from operator skills"*.

HORIZONTAL AUGMENTATION

097

R Rossi¹
D Rancitelli²
PP Poli²
M Rasia Dal Polo²
U Nannmark³
C Maiorana²

1 | Private practitioner, Genova, Italy

2 | Implant Center for Edentulism and Jawbone Atrophies, Maxillo-Facial Surgery and Odontostomatology Unit, Fondazione Cà Granda IRCCS, University of Milan, Ospedale Maggiore Policlinico, Milan, Italy

3 | Institute of Maxillofacial Surgery, the Sahlgrenska Academy Gothenburg University, Gothenburg, Sweden

ORIGINAL ARTICLE

Minerva Stomatologica 2016 O;65(5):257-68

Grafted with

BONE SUBSTITUTES

OsteoBiol® mp3®

BARRIER

OsteoBiol® Lamina