



## 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 too 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 resorbable biomaterials of porcine origin, the cortical lamina, connected to 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 do 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".

### HORIZONTAL AUGMENTATION

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MA Lopez<sup>1</sup>  
M Andreasi Bassi<sup>1</sup>  
L Confalone<sup>1</sup>  
F Carinci<sup>2</sup>

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

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