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# Graftless Maxillary Sinus Floor Augmentation with Simultaneous Porcine Bone Layer Insertion: A 1- to 5-Year Follow-up Study



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## ABSTRACT

In case of posterior maxillary atrophy, it is necessary to increase bone volume in order to perform an implant treatment. In this case, lateral sinus augmentation leads to predictable results and some Authors suggested to use a graftless technique to avoid some possible complications associated to the use of a graft material.

In this prospective study, the Authors aimed to evaluate whether a porcine cortical bone lamina placed underneath the sinus membrane can avoid its collapse and support the BIC increase and the implant secondary stability. For this purpose, 190 patients who needed to rehabilitate the atrophic posterior maxilla with implants were enrolled. In order to standardized the technique, all patients were treated by the same surgeon. As barrier, a porcine cortical bone lamina (OsteoBiol® *Lamina*, Tecnoss®, Giaveno, Italy) was used to prevent the sinus membrane from collapsing over the implant, thus increasing the long-term BIC. After its hydration in saline solution, OsteoBiol® *Lamina* was trimmed, shaped and adapted under the sinus membrane without using any graft material. Patients were monitored with a follow-up of 1 to 5 years and the results showed a implant cumulative success rate of 95.2%. The residual bone crest height increased from 2.67±1.11 mm to 12.54±1.42 mm, with a minimal marginal bone resorption. The implant stability quotient (ISQ) average value increased from 62.61±5.7 to 70.07±8.2, confirming the osseointegration of the implants.

## CONCLUSIONS

The success and predictability of graftless lateral sinus elevation procedures has been reported by several Authors and this study confirmed that this technique featuring the use of OsteoBiol® *Lamina* is a predictable and effective procedure. Based on the results, the Authors conclude that "*the porcine cortical bone lamina placed over the implant seems to effectively prevent the sinus membrane from collapsing on the sinus floor and increase the amount of bone around the implant*".

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