

## Concentrated growth factors in maxillary sinus floor augmentation: a preliminary clinical comparative evaluation

### ABSTRACT

In case of bone resorption following an extraction in the posterior maxilla, it is common to see a quantitative reduction and qualitative worsening of bone below the sinus cavity, with consequent poor conditions for implant placement and prosthetic restoration. To solve this problem, different materials have been proposed as graft for sinus augmentation procedures. As some studies suggested that the combined use of growth factors and graft materials may improve bone healing and bone regeneration, the aim of this research was to examine the effect of concentrated growth factors matrix (CGFm) on implant survival rate in augmented sinuses, and to evaluate the effect of CGFm on sinus augmentation postoperative morbidity. Fifty patients, requiring maxillary sinus augmentation, were selected. After implant site preparation, in 25 patients (control group) partial sinus filling was performed using a corticocancellous heterologous porcine bone graft (OsteoBiol® Gen-Os®, TecnoSS®, Giaveno, Italy) consisting of 0.25-1.0 mm particles moistened by saline solution. The other 25 patients (test-group) received a mixture of 70% CGFm (obtained through a specific protocol) and 30% corticocancellous heterologous porcine bone graft (OsteoBiol® Gen-Os®, TecnoSS®) consisting of 0.25-1.0 mm particles. After implant positioning and before soft-tissue closure, an absorbable collagen membrane (OsteoBiol® Evolution, TecnoSS®) was placed over the window previously created. At the 12-month clinical and radiographic examination, the success of implant function was evaluated, the survival rate was calculated and comparison was made between the 2 different groups using Kaplan-Meier analysis. Statistical significance was set at  $P < 0.05$ . A 96.4% survival rate was described in the test group (with CGFm) and a 96.1% survival rate in the control group (without CGFm), with no statistically significant differences between the two groups.

### CONCLUSIONS

The results of this study lead to the conclusion that the mixture of CGFm (70%) with xenograft (30%) can be considered an alternative to xenograft material alone, with a predictably behaviour in sinus augmentation procedures. Moreover, it seems to determine less postoperative morbidity in sinus augmentation procedures. Anyway, the Authors concluded that *“long-term clinical, histological, and histomorphometric studies on CGFm are required to confirm or refute these findings. Particularly, the future studies with only CGFm in augmented sinuses should be carried out”*.

### LATERAL ACCESS SINUS LIFT

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**ORIGINAL ARTICLE**  
European Journal of Oral Implantology  
2013;6(4):359-372

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