



4 mm long vs longer implants in augmented bone in posterior atrophic jaws: 1-year post-loading results from a multicentre randomised controlled trial

LATERAL ACCESS SINUS LIFT & VERTICAL AUGMENTATION

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ABSTRACT

In case of a residual vertical bone height less than 8.0 mm, when it is necessary to use dental implants in order to replace missing teeth, clinicians must decide if it is better to perform an augmentation procedure or to place short implants. The aim of this trial was to evaluate whether 4.0 mm short dental implants could be an alternative to augmentation with xenografts in the maxilla and placement of at least 10.0 mm long implants in posterior atrophic jaws. In the augmentation procedures, the atrophic jaws were augmented either with mandibular interpositional collagenated block of cancellous equine bone (OsteoBiol® Sp-Block, Tecnos®, Giaveno, Italy) or with a mixture of cancellous and cortical collagenated porcine-derived granular bone (OsteoBiol®, Gen-Os®, Tecnos), placed through a lateral window below the lifted maxillary sinus epithelium. The grafted areas were covered with resorbable collagen membranes derived from equine pericardium (fine 30 mm × 30 mm, OsteoBiol® Evolution, Tecnos®). This study tested the null hypothesis that there were no differences in the clinical outcomes between the two procedures against the alternative hypothesis of a difference. Outcome measures were prosthesis failure, implant failure, any biological or prosthetic complications, peri-implant marginal bone levels changes. The follow-up was 1 year after initial loading. There were no statistically significant differences in implant failures or prosthesis failures. Significantly more complications occurred at augmented sites: six patients in the short implant group were affected by six complications vs 18 patients from the augmented group with 24 complications.

CONCLUSIONS

One year after loading, 4.0mm long implants achieved results similar to longer implants in augmented jaws, but were affected by fewer complications. Based on the results, Authors concluded that *“short implants might be a preferable choice to bone augmentation, especially in mandibles, since the treatment is less invasive, faster, cheaper and associated with less morbidity. However, 5 to 10 years post-loading data from larger trials are necessary before being able to produce reliable recommendations”*.

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