

**Posterior atrophic jaws rehabilitated with prostheses supported by 5x5 mm implants with a novel nanostructured calcium-incorporated titanium surface or by longer implants in augmented bone.**

**Preliminary results from a randomised controlled trial**

**ABSTRACT**

The use of short implants, with an intrabony length of 8 mm or less, may be considered as a simpler, cheaper and faster alternative to bone augmentation procedures for the subsequent placement of longer implants. Consequently, the aim of this study was to compare the outcome of partial fixed prostheses supported by 5x5 mm implants with prostheses supported by implants at least 10 mm long placed in augmented posterior jaws.

For this trial, 40 patients with atrophic posterior mandibles with 5 to 7 mm of bone height above the mandibular canal and 40 patients with atrophic maxillae with 4 to 6 mm below the maxillary sinus, were enrolled and divided in two groups in order to receive one to three 5x5 mm implants or one to three at least 5x10 mm-long implants in augmented bone. Bone vertical augmentation of the mandibles was performed by the interposition of bovine bone blocks (OsteoBiol® Sp-Block, Tecnos®, Giaveno, Italy) and resorbable barriers (OsteoBiol® Evolution) and implants were placed after 4 months. Maxillary sinuses were augmented with particulated porcine bone (OsteoBiol® mp3® pre-hydrated collagenated porcine bone), the lateral window was covered with a resorbable collagen barrier (OsteoBiol® Evolution) and implants were placed simultaneously. 4 months after loading, the Authors evaluated prosthesis and implant failures and the presence of complications.

The results showed that there were no statistically significant differences in prosthesis and implant failures.

**CONCLUSIONS**

Within the limitation of this study (small sample size and short duration of the follow-up), short-term data (4 months after loading) indicate that 5x5 mm implants achieved similar results compared to longer implants placed in augmented bone. So, in the Authors' opinion, *"short implants might be a preferable choice to bone augmentation especially in posterior mandibles since the treatment is faster, cheaper and associated with less morbidity. However, 5 to 10 years of post-loading data are necessary before making reliable recommendations"*.

**LATERAL ACCESS SINUS LIFT & VERTICAL AUGMENTATION**

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