



Posterior atrophic jaws rehabilitated with prostheses supported by 5 x 5 mm implants with a novel nanostructured calcium-incorporated titanium surface or by longer implants in augmented bone. One-year results from a randomised controlled trial

ABSTRACT

In this study, the Authors aimed to verify if short implants can be a simpler, cheaper and faster alternative with less associated morbidity compared to longer implants placed in bone augmented with bone substitutes in posterior atrophic jaws, if they could provide similar success rates.

A total of 40 patients with atrophic posterior arches were randomised according to a parallel group design to receive one to three 5 mm implants or one to three at least 10 mm-long implants in augmented bone.

In mandibles, the augmentation procedure consisted of interpositional blocks of collagenated cancellous bovine bone (OsteoBiol[®] Sp-Block, Tecnos[®], Giaveno, Italy) and maxillary sinuses were augmented with a sticky paste made of 600 to 1000 μ m pre-hydrated collagenated cortico-cancellous bone granules of porcine origin (OsteoBiol[®] mp3[®], Tecnos[®]). The same bone substitute was also used to fill gaps between bone blocks and the surrounding bone in mandibles. The grafted area was covered with a collagen resorbable barrier (OsteoBiol[®] Evolution, Tecnos[®]) from equine pericardium. All implants were submerged and loaded after 4 months with provisional prostheses.

CONCLUSIONS

One year after loading, 5 x 5 mm implants achieved similar results compared to longer implants placed in augmented bone and so it is possible to presume that short implants might be a preferable choice to bone augmentation especially in posterior mandibles.

With reference to the blocks used, the Authors declared: *"in this trial, we decided to use blocks of collagenated bovine bone instead of the blocks of sintered bovine bone we used in previous studies because sintered bone blocks were too brittle and sometimes fragmented into small pieces during shaping and insertion procedures. We therefore used a more solid bone block of animal origin"*.

LATERAL ACCESS SINUS LIFT & VERTICAL AUGMENTATION

071

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