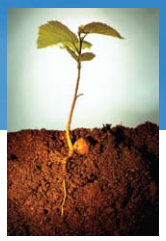

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Sequential healing of the elevated sinus floor with different size of antrostomy: a histomorphometric study in rabbits

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ABSTRACT

When it is necessary to perform a dental implant rehabilitation in the posterior maxilla region, maxillary sinus elevation is considered a suitable surgical technique in order to obtain an adequate bone volume. The aim of this study, performed in 24 New Zealend rabbits with a split mouth design, was to evaluate the influence of the access window dimensions on the healing at the antrostomy and within the augmented maxillary sinus. The rabbits were divided in three groups, corresponding to a different healing period (2, 4 and 8 weeks from surgery) and different sizes of antrostomy were carried out (3x6 mm or 5x6 mm). In order to fill bilaterally the augmented sinuses, a collagenated cortico-cancellous porcine bone (OsteoBiol® *Gen-Os*®, Tecnoss®, Giaveno, Italy; granulometry: 250-1000 μm) was used. The antrostomies were then covered with an equine collagen membrane (OsteoBiol® *Evolution*, Tecnoss®; thickness: 0,3 mm).
No statistically significant differences in bone formation between groups both in the antrostomy region and within the augmented regions were revealed. In the antrostomy regions, bone was found forming from the edges of the osteotomy, and after 8 weeks from surgery, the center of the antrostomy was mainly occupied by connective tissues in both groups. The biomaterial in the present experiment decreased between 2 and 8 weeks about 50%.

CONCLUSIONS

As no relevant changes of the height of the augmented sinus were detected over time, the Author concluded that antrostomies of different dimensions resulted in similar outcome in bone formation both in the antrostomy regions and within the elevated sinus.

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