



Sinus Pack for maxillary sinus augmentation: a new technique

LATERAL ACCESS SINUS LIFT

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ABSTRACT

In the posterior area of maxilla, the loss of natural teeth leads to alveolar bone atrophy, jeopardizing the possibility to insert dental implants of suitable length. Therefore, it is necessary to restore the proper bone volume with a sinus augmentation procedure. Two approaches have been proposed: a crestal one and a lateral one. In particular, the lateral approach is based on the Schneiderian membrane detachment, using a vestibular osteotomy in order to create a space to be filled with a bone graft. For the success of the procedure, it is important to ensure the stability of the graft and prevent the Schneiderian membrane perforation. Therefore, in this study the Authors present the Sinus Pack technique which allows to stabilize the graft material and prevent its granules migration in case of a membrane perforation. Four patients with severe vertical atrophy of the alveolar bone in the posterior maxilla were selected and treated with the Sinus Pack technique: after performing the antrostomy, the sinus membrane was elevated until a sufficient space to place the graft and the implants was reached. Then, the graft was prepared in order to perform the Sinus Pack technique: an extra-fine, 0.22 mm thick, pericardium, resorbable membrane (OsteoBiol® Evolution, Tecnos®, Giaveno, Italy) was properly hydrated with saline and a 80% bone-20% collagen gel, heterologous cortico-cancellous bone substitute (OsteoBiol® GTO®, Tecnos®) was placed in the middle of the membrane, folding the membrane over the bone graft, so to obtain a pack. This one was then inserted into the antrostomy, stabilized, and covered with more biomaterial, and the flap was sutured. After six months, a CT examination showed the maturity status of the graft on each patient, all biopsies revealed vital, newly formed bone, and a mean vertical gain of 6.95 mm (standard deviation = 1.05 mm) was observed.

CONCLUSIONS

Within the limitations of the study, the results show that the Sinus Pack technique seems to be a reliable approach in order to obtain the necessary amount of regenerated bone for the rehabilitation of the posterior maxilla.

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