



## **Osteotomy and membrane elevation during the maxillary sinus augmentation procedure. A comparative study: piezoelectric device vs. conventional rotative instruments**

### **ABSTRACT**

Sinus lift is generally considered to be a safe surgical procedure for the maxillary sinus floor augmentation with a low prevalence of complications. Anyway, in case of a sinus membrane perforation, it is no more possible to guarantee the graft stability and its vascularization, jeopardizing the maturation and mineralization of the bone graft. Moreover, the presence of a large sinus membrane perforation allows migration of the graft to the respiratory mucosa and its bacterial contamination.

The aim of this randomized-controlled clinical trial was to compare two treatment procedures for the surgical access (osteotomy and sinus membrane elevation) to the maxillary sinus by means of piezoelectric device and conventional instruments during the maxillary sinus floor augmentation procedures.

A total of 13 patients (10 females and 3 males) who required a bilateral maxillary sinus floor elevation for implant-prosthetic rehabilitation were selected. A within-patient control study was carried out. The osteotomy for sinus access was performed on one side of the maxilla using the piezosurgery (test sites) and on the other side using conventional rotary diamond burs (control sites).

Once the sinus membranes were elevated to obtain the requested volume for bone grafting, all the maxillary sinuses were grafted using 100% cortico-cancellous pig bone particles (OsteoBiol® mp3®, Tecnos®, Giaveno, Italy). The bony sinus windows were covered with a reabsorbable collagen membrane (OsteoBiol® Evolution, Tecnos®).

### **CONCLUSIONS**

All patients had an uneventful healing and no signs or symptoms of maxillary sinus disease were observed after the augmentation surgical procedures.

With reference to the comparison between the two surgical procedures, none of the differences observed between the two groups reached a level of significance.

Within the limits of the present study, the Authors concluded that *“piezosurgery and conventional instruments did not show any differences in the clinical parameters investigated for the maxillary sinus floor elevation”*.

### **LATERAL ACCESS SINUS LIFT**

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