

Oral presentation

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OSTEOTOME SINUS FLOOR ELEVATION WITHOUT GRAFTING MATERIAL: A 5-YEAR FOLLOW-UP

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BACKGROUND AND AIM: The long-term outcome of implants placed in the atrophic maxilla without grafting material has not been documented yet. In a previous study (Nedir et al. COIR 2006), the 1-year predictability of an osteotome sinus floor elevation (OSFE) procedure without grafting material was evaluated in maxillae with a limited mean residual bone height (RBH) of 5.4±2.3mm. Mean endo-sinus bone gain was 2.5±1.2mm and crestal bone loss (CBL) was 1.2±0.7mm. On the 3-year mid-term (Nedir et al. COIR 2009 *in press*), the endo-sinus bone gain increased slightly to 3.1±1.5mm and CBL was limited to 0.9±0.7mm. The present paper reports the 5-year long-term results.

METHODS AND MATERIALS: 25 ITI-SLA implants (length ≤ 10mm) were placed in 17 patients to rehabilitate 16 molar and 9 premolar maxillary sites with 4 single crowns and 13 fixed partial dentures. At the 5-year control, endo-sinus bone gain, CBL and protrusion length were measured on apical radiographs.

RESULTS: One patient with one implant was lost during follow-up and was dropped-out of the study. Compared to the post-operative situation, the mean CBL was 0.8±0.8mm. All implants gained endo-sinus bone; the mean gained bone was 3.2±1.3mm (range 1.1-5.8mm). Six implants have gained more than 4 mm of apical bone. The protrusion length into the sinus decreased from 4.9±1.9mm at surgery to 1.5±0.9mm after 5 years. Since the 1-year control, an additional bone gain was measured for 20 implants; bone gain was stable for 3 implants while one showed a decrease of 0.3mm.

CONCLUSION: This is the first long-term report that addresses the capacity of forming bone beneath the Schneiderian membrane when it is lifted beyond the limits of the sinus floor without addition of any grafting material. During this 5-year survey with controls at 1, 3 and 5 years, implants fulfilled the clinical and radiographic criteria of success proposed by Albrektsson et al. (1986). The limited CBL measured at the 1 year control has stabilized over the 5 years. The augmented area did not shrink following the 1-year control; rather, bone gain tended to increase with time. With a success rate of 100%, this study confirms the long-term predictability of the OSFE technique. In addition, it corroborates that bone grafts or grafting materials are not a pre-requisite for bone formation when the initial RBH of the maxilla is on average 5mm.