

placement and RFA was performed at examinations 6 and 12 weeks following surgery.

Results: The clinical implant survival rate was 100% for the total population. Mean of primary implant stability for Straumann TE implants was 79.94 ± 4.26 ISQ. In the group of immediate loaded implants ISQ values decreased in the first 6 weeks from 81.67 ± 3.2 to 81.05 ± 5.06 and in the next 6 weeks became higher 83.17 ± 2.57 . The mean rank of ISQ values of immediate loaded implants in 6th week was significantly lower than in 12th week ($P=0.016$). The significant increase in ISQ values between 6th and 12th week has been noted in the group of early loaded implants ($P=0.016$). Differences between immediate and early loaded implants were statistically insignificant ($P>0.05$).

Discussion and conclusion: Result of this study suggests an immediate loading protocol for Straumann TE implant inserted in posterior mandible.

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Lateral mandibular ridge expansion with simultaneous implants placement

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Objectives: To present a simple technique for lateral expansion allowing implant placement in the narrow mandibular alveolar ridge.

Methods: A 46-year-old woman in good health, smoker (6 cigarettes/day), presented with edentulous mandibular region (34–35) requiring implant treatment. The osteotomy was performed using piezosurgery and osteotome Split Control system (Meisenger, Neus, Germany). First osteotome has the pointed edge, corresponding to the width of osteotomy performed with piezon. The osteotomy was enlarged using osteotomes with one side parallel and other oblique, with increased width by 0.4–0.5 mm. Following tooth extraction (36) and ridge expansion, two implants were placed in edentulous ridge: SPI[®] (Thommen Medical AG, Waldenburg, Switzerland) $\varnothing 3.5$ mm, 11 mm length in the expanded zone and Straumann[®] WNI implant (Straumann AG, Basel, Switzerland) $\varnothing 4.8$ mm, 12 mm length distally to this zone, into 36 extraction socket.

Results: Three months following placement, harvested sample demonstrated new bone in the expanded region. The fixed prosthesis with galvanic crowns and fibre reinforced composite was used for implants restoration. Stable peri-implant bone level was found 6 months following prosthesis placement, without mucosal and bone complications.

Conclusion: Ridge expansion can be easily performed in mandibular region using osteotomes of adequate width and length. It

is safe and easy to perform, allowing implant placement and new bone formation. Fixed prosthesis with galvanic crown and fiber reinforced composite was passive, precise, fast to prepare and simple to repair.

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Another indication for tapered Straumann-TE[®] implants: placement in the posterior resorbed maxilla

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Objectives: In a previous pilot study (Nedir et al. 2006), ITI implants were successfully used in an osteotome sinus floor elevation (OSFE) procedure without grafting material when the residual bone height (RBH) was < 8 mm. However, it was shown that achieving primary stability was very challenging when the RBH was 3–4 mm. The aim of the present pilot study was to evaluate: (1) the relevance of using TE[®] implants to achieve primary stability when RBH is < 4 mm, (2) the predictability of an OSFE procedure with TE[®] implants without bone grafting material, (3) the possibility to gain bone height without bone grafting.

Material and methods: Thirteen TE[®] implants were placed in eight consecutive patients to rehabilitate 10 molar and three premolar sites with three single crowns (SC) and five fixed partial dentures (FPD). Mean RBH was 2.8 ± 0.7 mm. Five implants were 10 mm long ($\varnothing 6.5$ mm) and weight were 8 mm ($\varnothing 4.1$ mm). They were placed with an OSFE procedure without grafting material. A healing period of 3–5 months was allowed. The percentage of stable implants at abutment tightening, at 6 and 12 months was calculated. The endo-sinus bone gain and crestal bone loss at the mesial and distal sides were measured on apical radiographs.

Results: During surgery, the sinus membrane was perforated in three (23.1 %) cases. All implants achieved primary stability and were loaded after 4.1 ± 1.1 months. All implants have been in place for at least 6 months, eight implants passed the 1-year control. After 1 year, the mean endo-sinus bone gain was 2.4 ± 1.4 mm and the mean crestal bone loss was 0.5 ± 0.6 mm.

Discussion and conclusion: In the posterior maxilla, primary stability can be easily achieved with the TE[®] implants even when RBH is < 4 mm, because they are tapered with threads up to the top of the roughened surface and present a reduced pitch of 0.8 mm. Despite limited bone support and absence of grafting material, all loaded implants were clinically stable. By its own, elevation of the sinus membrane without addition of bone grafting material can lead to bone formation beyond the original limits of the sinus floor.