hydroxylapatite coated titanium endosteal implants (IMZ®) in the grafted sinuses was adopted. In the other three groups, a two stage procedure was adopted and implants were placed after a healing period of six months. After a healing period of six months implants were uncovered and dental prosthesis were applied. 17 patients were rehabilitated with unilateral partial implant-anchored bridges, 5 patients with a bilateral partial implant-anchored bridges, 2 patients received full bone-anchored bridges and 6 patients received implant-retained overdentures. Out of 124 implants inserted in the grafted sinuses, 8 failed, with a 93.5% success rate, whereas out of a total of 38 implants inserted in the anterior maxilla, 2 (5.3%) failed. The mean follow-up was 14.5 months.

Preliminary results from this series, despite a limited sample and a short follow-up, have shown the high reliability of this technique that provides the bony structure for insertion of endosseous implants in an otherwise prohibited area.

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245. 3 Years Follow Up of Inserting Endosseous Implants in Severely Atrophic Maxillae

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A new method using a Le Fort I osteotomy, sinus and nasal floor bone inlay grafting with simultaneous placement of titanium screw implants and a modified submucous vestibuloplasty was introduced by Sailer (1989). Till present 38 patients have been operated using this protocol. To evaluate a homogenous group of patients the results achieved in 11 consecutive patients operated by one and the same surgeon are presented, 7 of these patients were females and 4 males. The youngest patient was 41, the oldest 66 years of age with an average of 54 years. Six or 9 Branemark fixtures were inserted into the maxilla, a total of 80 implants. 66 of these fixtures were inserted after pretapping, 14 were self tapping fixtures. 22 fixtures were used in combination with BMP (bone morphogenetic protein), 8 of these after pretapping, 14 were selftapping. 32 fixtures were placed in the front region and 48 fixtures were placed in the premolar and molar region. After an average observation time of 3 years (ranging from 1 year 8 months to 5 years and 6 months) 77 fixtures (= 96.25%) were still in place, 2 (= 2.5%) were lost, one firm and integrated fixture was removed 18 months postoperatively, because it was not used. The two losses occurred in female patients. It is important to state that these 2 fixtures were not totally firm when placed, but left as a trial. The presented method enables the surgeon to improve the intermaxillary relationship and to restore the original facial dimensions in a vertical and sagittal plane. It is an universal method for the treatment of the edentulous maxilla and to functionally and aesthetically restore these patients.

246. Simultaneous Placement of Endosseous Implants and Mandibular Onlay Grafting with a Mixture of Autogenous bone and Hydroxylapatite Granules

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This presentation deals with a method in which autogenous cortico-cancellous bone struts are used to augment the severely resorbed (class V–VI) mandible.

Two burr holes for implants are made 1 cm from the midline. A subperiosteal tunnel is then created as far as the molar area to insert the bone grafts. The space between two implants is packed with a mixture of cancellous bone and hydroxylapatite granules in a ratio of approximately 4:1.

16 patients (34 implants) with a follow-up ranging from 13–30 months (mean 1.5 yrs) are presented.

All implants are still in place though around 3 is pathological bone loss and they will be lost in the future (92.5% success). Because these patients wear overdentures, bone resorption in the molar area goes rather quickly. At the implant site and at the inter-implant space, however, the bone maintains its contour and volume.

Because there is a low morbidity associated with this technique it is especially recommended for the older patient with an extremely resorbed mandible.

247. Results after Mandibular Sandwich Procedures in Combination with Titanium Screw Implants

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The anterior mandibular sandwich procedure in combination with simultaneous placement of titanium endosseous implants and interpositioning of autologous bicortical iliac crest bone for augmentation of the atrophied mandible is described. The technique developed by Sailer (1987) is a modification of the interpositional procedure proposed by Schettler in 1967. The lingual pedicled cranial part of the mandible is positioned superiorly and a bicortical iliac bone graft is interpositioned. In the same session implants of maximal length are inserted into the pedicled cranial part through the interpositioned bone graft into the symphyseal cortex. Before the insertion bovine Bone Morphogenetic Protein (b-BMP) is put into the burr holes. The intraforaminal procedure is combined with the classical onlay technique in the lateral part of the mandible, posterior to the mental foramina, in order to assure an adequate mandibular contour. Simultaneous sulcoplasties are possible. After 3 months of healing – in the meantime the patients existing mandibular denture is relined for temporary use – the abutment procedure is carried out, and the fabrication of definitive fixed or detachable mandibular prosthesis is started. Depending on the number of implants a bar or precision attachments can be used to support the prosthesis. In a retrospective study 23 patients were evaluated. The method creates excellent recipient sites for maximum size endosseous implants. The longest follow-up period was