256. Secondary Rhinoplasty

B. Dordevic, M. Visnjic**, N. Buric****

** Dept. of Plastic Surgery, ** Belgrade, Serbia, Dept. of Plast Surgery, *** Dept. of Oral Surgery, Nis, Serbia*

The authors' experience in the surgical treatment of deformities after rhinoplasties in 102 patients will be presented. The female/male ratio was 3:1, all patients were between 20–35 years of age. The most frequent site of deformities were: tip of nose (32.3%), 'supratip zone' (26.5%), dorsum (24.5%) deformities of alae nasi, columella and combinations (16.7%). Correction of deformities was done by augmentation (auricular and septal cartilage grafts) in 60.8%, reduction technique in 25.5% and combination of both methods in 9.8% of the patients. In only 3 patients were non-satisfactory results obtained because of infection and subsequent graft rejection.

257. The Temporalis Muscle Flap in Facial and Craniofacial Reconstructive Surgery (Experience with 182 Patients)

Ernesto Padula, Stefano Spanio

Dept. of MF Surgery, Regional Hospital, Vicenza, Italy

During a 16 year period, 182 patients underwent reconstruction in the maxillofacial area, using a temporalis muscle flap (TMF). The range of application included: traumatic defects, defects after ablative tumor surgery, ankylosis of temporal mandibular joint and facial palsy.

A composite flap (with cranial bone, coronoid process and skin island) was used in 15 patients. The flap was used as a unilateral flap and in a bilateral fashion.

This presentation deals with the morphofunctional results, transitory problems and possible complications.

The TMF flap has great potential in reconstructive maxillofacial surgery because of its excellent vascularization, its proximity to the site of reconstruction and because it has considerable bulk.

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258. The Use of Bone Morphogenetic Proteins (BMPs) in Mandibular Reconstructions with Lyophilised Cadaver Mandible

H. F. Sailer, E. Kolb

Dept. of OMF Surgery, Zürich, Switzerland

Freeze-dried, banked mandibular bone in combination with BMPs or autologous bone chips or without any additives has been used as graft material after mandibular resections of different size in patients with various tumors (4 ameloblastomas; multiple recurrent keratocysts; osteogenic or odontogenic fibromas, 1 case each). The results in all patients were functionally and esthetically good 8, 6, 4 and 3 years after operation, respectively. However, considerable resorption (at least 50%) occurred in 2 patients, one with autologous bone chips and one without. The last patient had gradual loss of various sequesters over a period of 6 years. No significant late resorption was observed in 3 patients irrespective of the addition of autologous bone. The most remarkable results were seen in the 2 BMP patients, both with large lyophilised bone grafts comprising of parts of body and ramus, which intraoperatively were generously covered with BMP paste. In 1 case the lyo-bone was additionally impregnated with BMP before operation. The observation period was 20 and 6 months, respectively. Both grafts were rapidly integrated without signs of resorption, suggesting accelerated autologous substitution induced by BMP. Although we have to await long term follow up to pass a final judgement, our impression is that large grafts in particular have a better chance of unaltered incorporation and revitalisation, when they are treated with BMP.

259. Reconstruction of Large Mandibular Defects with Revascularized Bone Grafts using Preoperative 3-D Model Planning

Werner Millesi, Gabriele Schobel, H.-Peter Wolf, Thomas Rath

Dept. of OMF Surgery, Dept of Plastic Surgery, University of Vienna, Austria

Revascularized bone grafts have proven to be superior in the reconstruction of large bony defects, especially in irradiated or scarred tissue. Preoperative 3-D model planning turned out to be a helpful tool for the design of the transplant and the choice of osteosynthesis plates.

We report on 10 patients with primary and secondary reconstruction of large bony defects after tumor surgery. Resection of bone was carried out because of squamous cell carcinoma in 6 patients, the remaining 4 patients suffered from solid carcinoma, solitary plasmocytoma, osteosarcoma, melanoma. Two patients underwent primary reconstruction, in 8 patients the reconstruction was done secondarily, 1 to 5 years after tumor surgery. All patients were treated with preoperative radiation and/or chemotherapy. The 3-D models of the skull were produced by laserlithography. For the bony reconstruction 8 iliac crest, 1 fibular and 1 scapular grafts were used. In order to outline the advantages of the preoperative model planning, 2 groups could be defined. In primary reconstruction the design and adaptation of the osteosynthesis material would have been difficult when the tumor was located in the bone and would have led to deformation of the bony contours. In case of secondary reconstruction the dislocated resection stumps of the mandible could be well assessed. Preoperative model surgery made it possible to redefine the correct midline, and to reposition the displaced condyles. This allowed a exact preoperative design of the osteosynthesis material and a perfect calculation of the size and configuration of the bone graft. In conclusion, preoperative model surgery facilitated the surgical management and proved to be a time saving factor in these patients.

years, and the success rate 98.7%. One implant of 78 failed to osseointegrate. The total resorption after a period of two years compared with the absolute height of the augmentation was 16% in the anterior region and 17% respectively in the lateral part of the mandible. Most of the patients were highly satisfied with their facial form and denture function. This sandwich technique is also indicated for post-traumatic reconstruction with loss of the anterior alveolar crest. In cases of extreme atrophy of the lateral aspects of the mandible, a posterior sandwich procedure can be performed.

248. Bonefit Implants and Retentive Anchors in the Atrophic Mandible

Lex van Gool, Gertjan van Beek

Department of Oral and Maxillofacial Surgery, Sophia Hospital and the Weezenlanden Hospital, Zwolle, The Netherlands

The ITI Bonefit implant is a one-stage multifunctional implant. These two-part implants are pre-eminently suitable in the atrophic mandible as abutments for retentive anchors in elderly patients. Between 1988 and 1993 102 implants were inserted for this purpose in 51 patients. Evaluation took place in 1994, so the follow-up ranges from 16 months to 5 years.

The following parameters were recorded: implant survival, mobility, mandibular height, marginal bone loss, soft tissue reactions and patient satisfaction. The use of implants with retentive anchors has several advantages including: easy surgery, easy prosthetic treatment, less follow-up care, good stability and sufficient retention, easy to clean and inexpensive. The patients without exception were pleased with the functional result.

249. Preprosthetic Implants in Tumor Surgery

W. Weingart, U. Joos

Klinik und Poliklinik für Mund-Kiefer-Gesichtschirurgie der Westfälischen Wilhelms-Universität Münster, Germany

The classic surgical treatment for malignant tumours consists of block resection with a safety distance of 1 cm. all around, leaving big defects. With the modern methods of tissue transfer, defects can be closed and good aesthetic results obtained.

In addition to functional and aesthetic reconstruction we place a great deal of importance on immediate prosthetic rehabilitation. Thanks to the progress made in modern implantology, oral rehabilitation can be performed very soon after surgery, even when the patient must undergo postoperative irradiation. If necessary, implants can be inserted during the resection in order to achieve immediate prosthetic rehabilitation. A temporary prosthesis is inserted until the implants have healed which not only facilitates normal function, but also allows for direct inspection of the critical area in relation to possible recurrences.

Based on our experience with more than 100 patients who were operated for tumour resection and immediate insertion of implants, we report on the procedure and results.

250. Chewing Function of Postoperative Tumor Patients Treated with Osseointegrated Implants

Y. Matsui, F. W. Neukam***

** Dept. of OMF Surgery, Showa University, Tokyo, Japan, ** Dept. of OMF Surgery, University of Hannover, Germany*

Recent progress in reconstructive surgery and implantology has made it possible to restore the chewing function of patients that underwent ablative surgery for malignancy. This study evaluated the chewing function of these patients treated with osseointegrated implants using the low adhesive color developing chewing gum system. Fifteen natural dentate subjects and 30 patients treated with osseointegrated implants including 9 tumor patients served as subjects. The test utilises a phloxine-sodium bicarbonate reaction and measures a chromatic co-ordinate (a*) as a functional indicator. The a* ranged from 25.03 to 41.98 in the natural dentate subjects, from 7.13 to 37.79 in the non-tumor patients, and from 5.04 to 35.88 in the tumor patients. The a* values were especially low in patients who had undergone resections of the tongue or floor of the mouth. These results suggest that functional reconstruction of the tongue and floor of the mouth is essential for a better chewing function in these patients.

251. Functional and Aesthetic Reconstruction using Endosseous Implants and Bone Grafts in Patients with Traumatic Loss of Teeth and Alveolar Bone

G. M. Henrich, W. Wagner, U. W. Wahlmann

Klinik f. MKG-Chirurgie, Mainz, Germany

Traumatic loss of teeth is often combined with simultaneous loss of alveolar bone and gingival tissue. The subsequent rehabilitation of these patients is rather difficult and can often not be solved with implants alone.

Between 1980–1993, in the clinic for Oral and Maxillofacial Surgery Mainz, Germany, 70 more or less severely traumatised patients had implants inserted during complex operative procedures. Tübinger, IMZ, Branemark and Frialit 2-type implants were used. In this, compared to other patient groups, relatively young patient group the fixtures were mostly inserted in the anterior maxilla. In extremely severe cases, when alveolar tissue was lost, a new bony environment had to be provided using local or iliac crest bone grafts. Secure soft tissue coverage of these grafts is of major importance. Local flaps have often to be employed due to scarring or loss of soft tissue. In order to reach a good functional and aesthetic result after bone grafting, corrective soft tissue procedures such as vestibuloplasties are necessary in most cases, but can easily be combined with the exposure of the implants.