

PD.166 Prelaminated fascio-mucosal radial flap in oral cavity reconstruction

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Introduction: Soft-tissue defects of the mouth floor and tongue need thin, foldable and pliable flaps able to preserve the local anatomy as well as chewing and deglutition. Primary reconstruction of the oral cavity defects with vascularized free tissue transfer allows better morphological and functional results than local or pedicled flaps.

Materials and Methods: The oral mucosa is made of a stratified non-keratinized epithelium secreting mucus, which lubricates the oral cavity and facilitates tongue movements. Vascularized digestive flaps as well as fascio-cutaneous free flaps have these characteristics. Digestive flaps partially obviate loss of secretions, because their mucosal secretion is both qualitatively and quantitatively different from that produced in the oral cavity. On the other hand, despite their thinness and pliability, fascio-cutaneous free flaps do not have mucus-producing capabilities.

No flap exists that can reproduce the physiology of the oral mucosa better than the oral mucosa itself. Prefabrication of mucosal flaps may represent the best solution. Therefore, Since February 1997 to February 2004, 14 fascio-mucosal prelaminated radial free-flaps were harvested in 14 consecutive cases of carcinoma of the mouth floor and the tongue. Patients, age ranged between 38 and 64 yr, were treated with prelamination of the fascia antibrachialis with mucosal grafts obtained from the healthy cheek and subsequent transplantation 3 weeks later.

Results: A significant increase in mucosal graft surface was seen in all cases, with a mean size twice the original. All flaps healed uneventfully. Morphological and functional results are excellent. Tongue motility, speech intelligibility and swallow were reestablished in all treated cases.

Conclusion: Mucosal prelamination of the forearm fascia let to physiological reconstruction of oral cavity defects up to 6 x 4 cm. Prefabricated fascio-mucosal flaps could be employed in other areas of oral than mouth floor reconstruction, like the tongue, retromolar area, cheek and gingiva.

PD.167 Functional results of the hand after the use of the radial forearm free flap

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Introduction: The radial forearm free flap (RFF) is a versatile and especially useful fascio-cutaneous flap able to cover medium or even large intra-oral defects. Along with part of the radius can also reconstruct parts of the mandible or the maxilla. The RFA is the most frequently used free flap and its use has been proved for over 30 years. Although the reconstructive results from the use of RFA in the maxillofacial area have been extensively reported, there are relatively few reports on the morbidity of the radial defect left in the donor site of the hand. The purpose of the present study was to retrospectively study the mobility and muscle strength in the wrists and digits of patients with free-Radial Forearm Flap (osteofasciocutaneous or fasciocutaneous) reconstruction.

Materials and Methods: During the years 1999–2004 we have used the RFF in 55 consecutive patients with intra-oral malignancies. In 39 patients the RFF was used as fascio-cutaneous flap whereas in the remaining 16 as a composite

osteo-dermoperitoneal flap. The reconstructed defects varied in size, the smallest being 6×7 cm and the largest 17×10 cm. The created defect of the forearm was covered in all cases with quilted split thickness skin graft. There were no intra-operative fractures of the radius in those patients in whom composite flaps were raised. Seventeen unselected patients from the total cohort of the 55 patients were included in the study. 17 RFF donor sites (7 osteofasciocutaneous) compared to their respective non operated contralateral sites. One patient with bone harvest developed a green stick, undisplaced fracture of the shaft of the radius in his early postoperative period and was treated conservatively. Mobility of the wrist joint (flexion, extension, radial deviation, ulnar deviation, pronation and supination) were examined. Finger Joints (Metacarpal-phalangeal, proximal interphalangeal and distal interphalangeal) mobility was measured using special goniometers (Jamar by Sammons and Preston, Bolingbrook, IL 60440). Oppositional strength (pinch strength) of the thumb to the rest four fingers was measured with the aid of a dynamometer (Commander PinchTrack™ JTech, Medical Industries).

Results: Minor, not statistically significant, differences were noted in motility and strength between the hands of operated and not-operated forearms. Nine patients consistently reported hesitance in arm usage, without reporting any difficulty when using it. In the patient with the fracture, strength of the digits and range of their motion were noted to be influenced, and this was attributed to muscular atrophy due to the long immobilization of the limb, rather than to the free flap harvesting or the fracture itself.

Conclusion: Donor site morbidity in free radial forearm harvest seems to be a controversial issue. In our group of patients, donor site morbidity was minimal. The Radial forearm flap raised either with or without bone was found to cause minor impediments in the mobility of the arm and the hand or its muscle strength. When taken as composite osteo-fascio-cutaneous flap care should be taken to avoid stress fracture of the radius. Immobilization of up to 12 weeks is useful to prevent pathological radial fractures.

PD.168 Utilization of the buccal fat pat in the reconstruction of ablative defects of the oral cavity

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Introduction: The buccal fat pad (BFP) was first described as a local flap for the reconstruction of defects in the oral cavity in 1977. The use of the BFP has been well described for the repair of oral-antral fistulas as well as in cosmetic surgery. The aim of this study was to evaluate our experience with this flap in the reconstruction of defects of the oral cavity.

Materials and Methods: A retrospective chart review was conducted. Patient records were analyzed for patient age, sex, race, etiology of the surgical defect, site of surgical defect, the size of the surgical defect, and complications associated with the reconstruction.

Results: A total of 68 patients were identified. The age ranged from 19 to 91 years of age (mean 62). Thirty-three of the patients were female and 35 were male. The pathologic diagnosis of the patients studied consists of 42 squamous cell carcinomas, 6 minor salivary gland tumors, 11 odontogenic tumors, 2 sarcomas, and a defect caused by mucormycosis. The location of the surgical defect was the cheek in sixteen, the maxillary alveolus in thirty-six, the soft palate or tonsillar pillar in six and the retromolar area in ten. The size of defect covered by the buccal fat flap ranged from 1.5 x 1.0 cm to