Vestibuloplasty procedure and enlargement of keratinized tissues at dental implants using strip connective tissue grafts and botiss mucoderm

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Objectives
Loss of perimplant soft tissues may result in conditions with impaired function, esthetics and cleansibility. To avoid these malformations, a vestibuloplasty procedure was utilized applying an apically repositioned flap combined with strip connective tissue grafts and a resorbable acellular xenogeneic dermal matrix (mucoderm, botiss, Zossen, Germany). Our aim was to clinically evaluate the reconstruction of keratinized tissues following hard tissue augmentations.

Methods
In 10 patients, guided bone regeneration was performed, followed by placement of a total of 18 dental implants after 6 months. After another 2 months of healing the width of keratinized mucosa seemed clinically insufficient for proper implant soft tissue coverage. Therefore, an apically positioned flap was prepared, subsequently, a strip connective tissue graft was harvested from the palate, sutured to the apical border of the exposed periosteum. Thereafter, mucoderm was fixed to cover the still exposed periosteal area using 6/0 resorbable sutures. Changes in the width of keratinized tissues (KT) were recorded in mm using a periodontal probe.

Surgical Procedure & Follow-Up

Baseline: Apically repositioned flap

1 Week: Mucoderm fixation

2 Months: 1 month

3 Months: 2 months

Acknowledgement
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Demographic data
10 patients (5 female, 5 male, aged 38-64 years) were treated at the Department of Periodontology, Semmelweis University, Budapest, Hungary. Only non-smoking patients underwent surgery, full mouth plaque- and bleeding scores were <20% throughout the whole follow-up period.

Results
Wound healing was uneventful in all cases, complication free healing of the donor site and perimplant soft tissues was observed. 2 months after vestibuloplasty procedure, color blending and surface texture of newly formed soft tissues resembled natural attached alveolar mucosa. Mean width of keratinized tissue increased from 1.56 ± 0.84 mm to 6.24 ± 2.67 mm. Implants were uncovered, fixed partial dentures were delivered.

Conclusions
The application of an apically repositioned flap in combination of autogenous soft tissue grafts and mucoderm may represent a valuable treatment approach to avoid extensive tissue harvesting and to reconstruct missing keratinized tissues following guided bone regeneration and implant placement.

References: