


Clinical and esthetic outcome with immediate insertion and provisionalization with or without connective tissue grafting in presence of mucogingival recessions: A retrospective analysis with follow-up between 1 and 8 years

Robert Noelken Priv.-Doz. Dr., MSc^{1,2}  | Maximilian Moergel Priv.-Doz. Dr., Dr.² | Tobias Pausch Dr.¹ | Martin Kunkel Prof. Dr., Dr.³ | Wilfried Wagner Prof. Dr., Dr.²

¹Private Practice for Oral Surgery, Lindau/Lake Constance, Germany

²Department of Oral and Maxillofacial Surgery - Plastic Surgery, University Medical Center, Johannes Gutenberg University of Mainz, Germany

³Department of Oral and Maxillofacial Surgery, University Hospital of Bochum, Germany

Correspondence

Robert Noelken, Priv.-Doz Dr Med Dent, MSc, Private Practice for Oral Surgery, Lindau/Lake Constance, Germany; Department of Oral and Maxillofacial Surgery - Plastic Surgery, University Medical Center, Johannes Gutenberg University of Mainz, Germany
Email: rnoelken@me.com

Abstract

Background: Recessions following immediate implant insertion are frequently reported in the literature. Data regarding implant installation in presence of mucogingival recessions are rare.

Purpose: This study observes soft tissue level changes following immediate implant insertion and provisionalization of implants with or without connective tissue grafts in the anterior maxilla in patients with initial mucogingival recession within a follow-up period between one and eight years.

Materials and Methods: Twenty-six patients with marginal gingival recessions, which were designated for extraction and immediate implant insertion in the anterior zone of the maxilla (13-23), were included. Out of a larger group of immediate implants only single tooth replacements with 1 to 3 mm recession and a pre- and post-op CB-CT were selected. Facial bone deficiencies were grafted flaplessly with autologous bone in all sites. In a group of 13 patients the recessions (mean 2.3 ± 0.7 mm, range 1.0-3.0 mm) were grafted additionally by connective tissue (ABG + CTG), in the remaining 13 patients no soft tissue grafting (mean recession 1.8 ± 0.6 mm, range 1.0-3.0 mm) was performed (ABG). The marginal hard and soft tissue level, the width of the keratinized mucosa, the PES, and implant success were evaluated.

Results: After a mean follow-up period of 45 months the recessions were significantly reduced in the ABG group from 1.8 to 0.9 mm. The improvement was even more pronounced in the ABG + CTG group (from 2.3 to 0.5 mm). The PES improved significantly in both groups. At final examination all implants were still in function. Within the observational period, in 5 of 13 implants a marginal bone loss of more than 1 mm was noticed in the ABG, but in none of the ABG + CTG group.

Conclusions: These clinical results provide evidence that immediate implant placement might improve the facial soft tissue level. This was more evident in cases with a greater recession and an additional treatment with connective tissue grafts.

KEYWORDS

autogenous bone grafting, connective tissue grafting, facial hard and soft tissue defect, flapless reconstruction, immediate implant placement, immediate provisionalization, mucogingival recession, soft tissue esthetics

Abbreviations: ABG, autologous bone grafts; ABG+CTG, autologous bone grafts plus connective tissue grafts; BGM, bone graft material; CB-CT, cone beam computed tomography; CEJ, cemento-enamel junction.