

Soft tissue augmentation around a dental implant

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[SIdP – 2019 G. Vogel Award Session](#)

Clinical evaluation/ Diagnosis

A woman attended the Master in Periodontology at Complutense University of Madrid complaining about the esthetic appearance of her implant in position 24. After the clinical evaluation, the following periodontal diagnosis was elaborated: - Periodontitis, stage III, generalized, grade A; - Multiple gingival recessions; - Peri-implant mucositis on 24. According to this diagnosis, the patient received oral hygiene instructions, full-mouth scaling and a non-surgical therapy of mucositis on 24 with ultrasonic devices. At the 4-weeks re-evaluation, the peri-implant mucositis was still not completely solved, as 3 out of 6 sites of the implant still were positive to BoP. Moreover, the grey color of the abutment was visible in transparency, together with the presence of 1 mm mucosal recession and mucosal margin mobility.

Treatment goals

According to the clinical recommendations of the Group 1 of the 2nd Consensus Meeting of the Osteology Foundation, the clinicians may consider the use of soft tissue grafting to promote peri-implant soft-tissue health and marginal bone levels at implants with insufficient soft tissue dimensions. Moreover, the patient complains about self-perceived esthetic due to the mucosal recession and due to the transparency of the grey color of the abutment, called for covering the recession and augmenting the soft tissue volume. According to this, an envelope technique was chosen with the following specific objectives: - Increase soft tissue volume; - Remove mucosal margin mobility; - Maintain inter-proximal bone levels; - Covering the mucosal recession; - Improve self-perceived esthetic.

Description of clinical/surgical procedures

Following local anesthesia, a split-thickness (supra-periosteal) bed was prepared on the implant 24 on a single plane, far beyond the mucogingival line, by means of a micro-blade. This bed was extended laterally through the papillae of 23 and 25, up to reach a plane which was extended 5 mm in all directions from the mucosal margin of 24. The exposed implant surface was then decontaminated by means of ultrasonic devices. Then, a sub-epithelial connective tissue graft (15 mm x 6 mm x 1.5 mm) was harvested using the single-incision technique proposed by Hurzeler & Weng (1999). After suturing the palate with interrupted sutures, the connective tissue graft was placed into the split-thickness bed and sutured according to the technique described by Allen 1994. With these 2 sutures, the graft was bitten on both ends with vertical mattress sutures, which entered on the buccal side of the graft. Thanks to the split-thickness bed preparation, a part of the graft was intentionally left exposed.

Clinical outcomes

At the 6 days control, the graft was completely integrated in the receiving tissue. At the 14 days appointment, before suture removal, it was almost impossible to distinguish the CTG from the surrounding tissue. At the 7-months follow-up, the mucosal recession was completely covered, and a clear gain in soft tissue volume was visible. The soft tissue margin was firm, the abutment was not visible in transparency, and the patient was really happy for the esthetic result. The peri-implant mucositis was completely solved (achieving disease resolution), and the marginal bone levels of the implant were maintained. So that, all the pre-treatment goals were accomplished.