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Dr. Giorgio Tabanella

The Buccal Pedicle Flap for Peri-implant Soft Tissue Boosting



The Situation

Patient presented with a fistula buccal to area #21 associated to a chronic peri-apical lesion and external root resorption. Also tooth #11 showed a chronic peri-apical lesion. Her chief complaint was the misalignment of her teeth. The clinical situation revealed the presence of bleeding upon probing and generalized moderate periodontal disease (Stage II, Grade 1) as well as multiple endodontic failures.

The Risk Profile

	Low Risk	Medium Risk	High Risk
Patient's health	Intact immune system	Light smoker	Impaired immune system
Patient's esthetic requirements	Low	Medium	High
Height of smile line	Low	Medium	High
Gingival biotype	Thick – “low scalloped”	Medium – “medium scalloped”	Thin – “high scalloped”
Shape of dental crowns	Rectangular		Triangular
Infection at implant site	None	Chronic	Acute
Bone height at adjacent tooth site	≤ 5 mm from contact point	5.5 - 6.5 mm from contact point	≥ 7 mm from contact point
Restorative status of adjacent tooth	Intact		Compromised
Width of tooth gap	1 tooth (≥ 7 mm)	1 tooth (≤ 7 mm)	2 teeth or more
Soft-tissue anatomy	Intact		Compromised
Bone anatomy of the alveolar ridge	No defect	Horizontal defect	Vertical defect

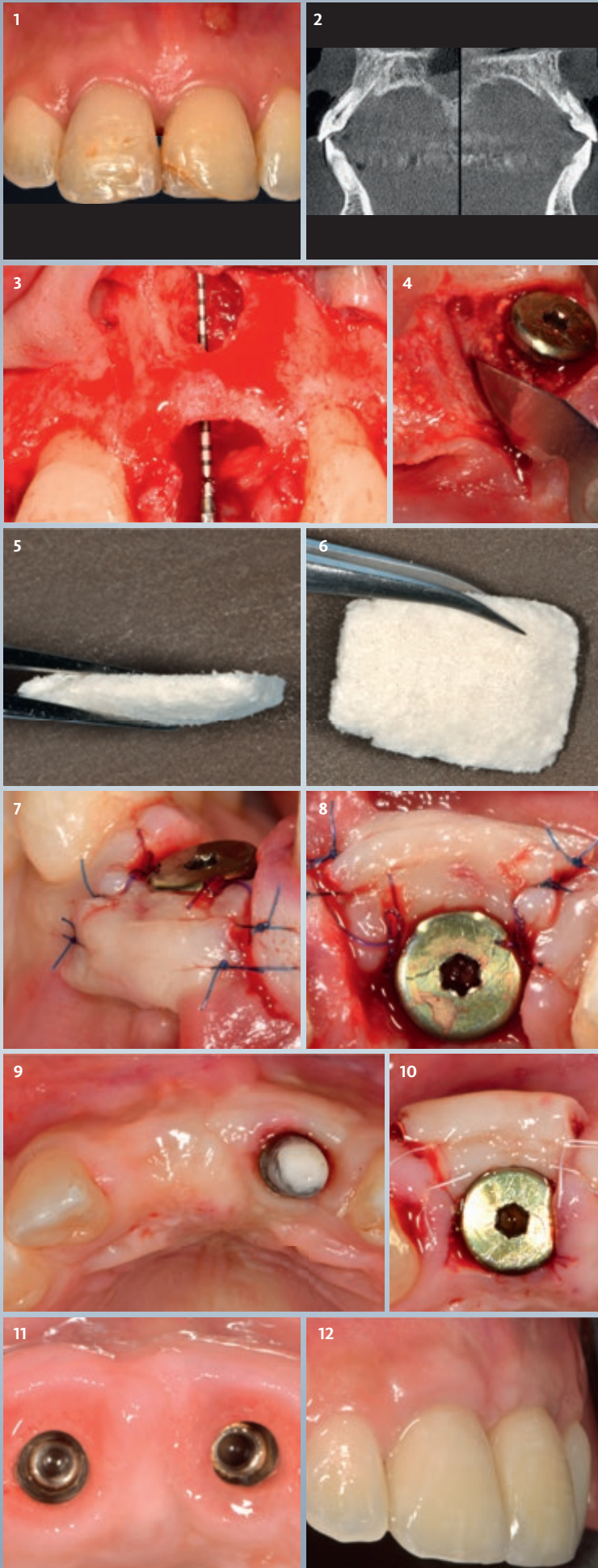
Note: request for reducing the healing time, long term maintenance

“An orthodontic treatment must be postponed because of the periodontal disease. A thin biotype and a high smile line needs to be taken into consideration,,



Giorgio Tabanella – Rome, IT Periodontics and Implantology – USC-University of Southern California Los Angeles USA DDS,MS, Diplomate of the American Board of Periodontology

Dr. Tabanella is a Diplomate of the American Board of Periodontology, Active Member of the Italian Academy of Esthetic Dentistry and author of the book “Retreatment of failures in dental medicine”. He graduated from the University of Southern California-Los Angeles-USA where he obtained the Certificate in Periodontics as well as the Master of Science in Craniofacial Biology. He is Director of O.R.E.C.-Oral Reconstruction and Education Center (www.tabanellaorec.com), reviewer and author of original articles.



The Approach

The aim of the treatment is to eradicate periodontal disease and restore esthetics and function. Treatment planning: non surgical and surgical periodontal treatment, orthodontic alignment, extraction of both central incisors, immediate implant placement and GBR, peri-implant soft tissue boosting with the "Buccal Pedicle Flap", full ceramic CAD-CAM restorations.

The Outcome

The final outcome is showing esthetics as well as biomimetics and function. The use of the "Buccal Pedicle Flap" allowed to boost the peri-implant mucosa with a minimally invasive approach. The combination of Geistlich Fibro-Gide® and "Buccal Pedicle Flap" had the main advantage of reducing the morbidity generally associated with CT harvesting.

| 1 The clinical picture is showing a fistula buccal to #21 as well as leakage on old composite restorations. A thin biotype is evident. | 2 The sagittal cuts are reporting chronic peri-apical lesions on both central incisors and a thin buccal plate with minor vertical bone loss but fenestration apical to #21. | 3 The intrasurgical picture is showing the bony defect, the buccal fenestration and the thin buccal plate. | 4 After allowing the tissue to heal for 4 months a first "Buccal Pedicle Flap" was performed during the uncovering of the dental implant. Simultaneously, Geistlich Fibro-Gide® was inserted into the envelope created by the flap design. | 5 Geistlich Fibro-Gide® is reduced to a thickness of 4 mm at its borders so that it is easier to get adapted to the recipient site. | 6 The FibroGide is trimmed so that its borders don't approach the vertical incisions of the Buccal Pedicle Flap. | 7 Polypropylene 6.0 sutures are used to compress the FibroGide underneath the flap thus creating the "wrinkles" on the mucosa. | 8 The wrinkles are visible also on the occlusal view. The mucogingival line is repositioned at its original level. | 9 Four months after immediate implant placement and GBR in area #11 a second Buccal Pedicle Flap is performed to reduce the buccal concavity, boost the peri-implant mucosa and increase the thickness as well as the band of the keratinized mucosa. | 10 As in the previous surgery the FibroGide is inserted underneath the Buccal Pedicle Flap and stabilized with e-PTFE 6.0 sutures. | 11 8 weeks post surgery, the occlusal view is showing a biomimetic countouring of the peri-implant mucosa. | 12 The final esthetic result is emphasizing an excellent blending of "white" and "pink" esthetics.



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Keys to Success

Prosthetic driven implant insertion

Good volume of the buccal bone balcony after Guided Bone
Regeneration

Peri-implant soft tissue management to increase
thickness of the tissue

Allow for Soft tissue maturation



The combination of the “Buccal Pedicle Flap” and
Geistlich Fibro-Gide® may be of help in the minimally
invasive approach for soft tissue thickening and
sculpturing of the peri-implant pink esthetics.

This combination may also be relevant in reducing
the morbidity as well as post-operative complications
due to connective tissue harvesting.



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