8 Decision Trees for Soft Tissue Augmentation Procedures Proposed by the American Academy of Periodontology

Leandro Chambrone

8.1 Decision Trees for Soft Tissue Root Coverage and Keratinized Tissue Augmentation in Sites Not Requiring Root Coverage

As part of the efforts of the recent AAP workshop on *Enhancing Periodontal Health Through Regenerative Approaches*, systematic reviews and consensus reports prepared (published at the *Journal of Periodontology*), the *Practical Applications* paper (published at *Clinical Advances in Periodontics*), as well as, decision trees for the different surgical clinical scenarios were developed to assist clinicians in understanding of periodontal regenerative approaches. But why?

During the daily practice, clinicians are required to deal with diverse clinical scenarios, as well as to provide the most adequate treatment options for each particular condition, based on the best evidence available, on clinician's skills and patients' desires. For instance, "which treatment options are available for the management of sites lacking keratinized tissue? And why are they important?"

Two of these state-of-the-science trees condense the existing information in the field of soft tissue root coverage and keratinized tissue augmentation in sites not requiring root coverage. More than simplistic schematics of procedures, these assessed clinical applications of the science, identified priorities for future research, and provided practical clinical translation of current evidence (i.e., clear summaries of evidence and multiple approaches to clinical translation through scenario-based interpretations of the systematic reviews) – in other words, "to build on existing knowledge to determine the best, practical way to treat patients with periodontal regeneration, as well as to prepare solid guidelines and treatment rationale to support decision-making for specific clinical scenarios."

These trees aim to guide clinicians during the decision-making process.

L. Chambrone, DDS, MSc, PhD
Unit of Basic Oral Investigation (UIBO),
School of Dentistry, El Bosque University,
Bogota, Colombia

Department of Periodontics, College of Dentistry,
The University of Iowa, Iowa City, USA
e-mail: leandro_chambrone@hotmail.com

L. Chambrone (ed.), *Evidence-Based Periodontal and Peri-Implant Plastic Surgery: A Clinical Roadmap from Function to Aesthetics*,
DOI 10.1007/978-3-319-13975-3_8,

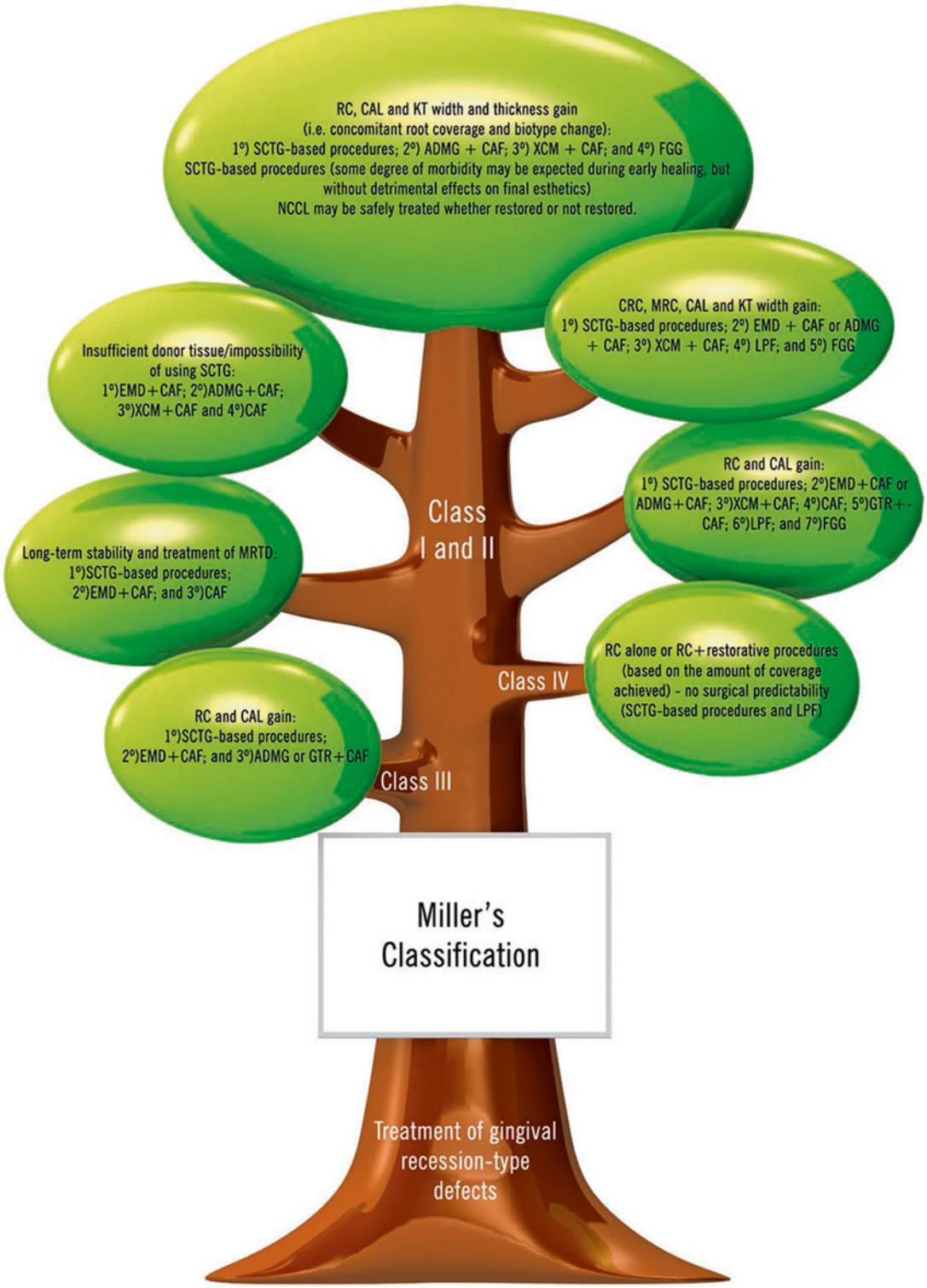

Fig. 8.1 Decision tree for the treatment of Miller's [1] recession-type defects by Chambrone and Tatakis [2] (the thicker the "branch," the stronger the base of evidence). It is expected that there is wound healing consisting of long junctional epithelium and connective tissue attachment (with fibers parallel to the root surface), but some degree of tissue regeneration may occur (mainly for EMD and GTR-based procedures). Since the majority of the publications included in the study evaluated single tooth recession sites, the decision tree seems better designed for determining appropriate treatment for single tooth sites, but it may guide the treatment of multiple recession-type defects as well. The use of root modification agents does not promote positive or negative clinical modifications. *ADMG* acellular dermal matrix graft, *CAF* coronally advanced flap, *CAL* clinical attachment level, *EMD* enamel matrix derivative, *FGG* free gingival graft, *GTR* guided tissue regeneration, *KT* keratinized tissue, *LPF* laterally positioned flap, *MRTD* multiple recession-type defects, *NCCL* non-carious cervical lesion, *RC* root coverage, *SCTG* subepithelial connective tissue graft, *XCM* xenogeneic collagen matrix

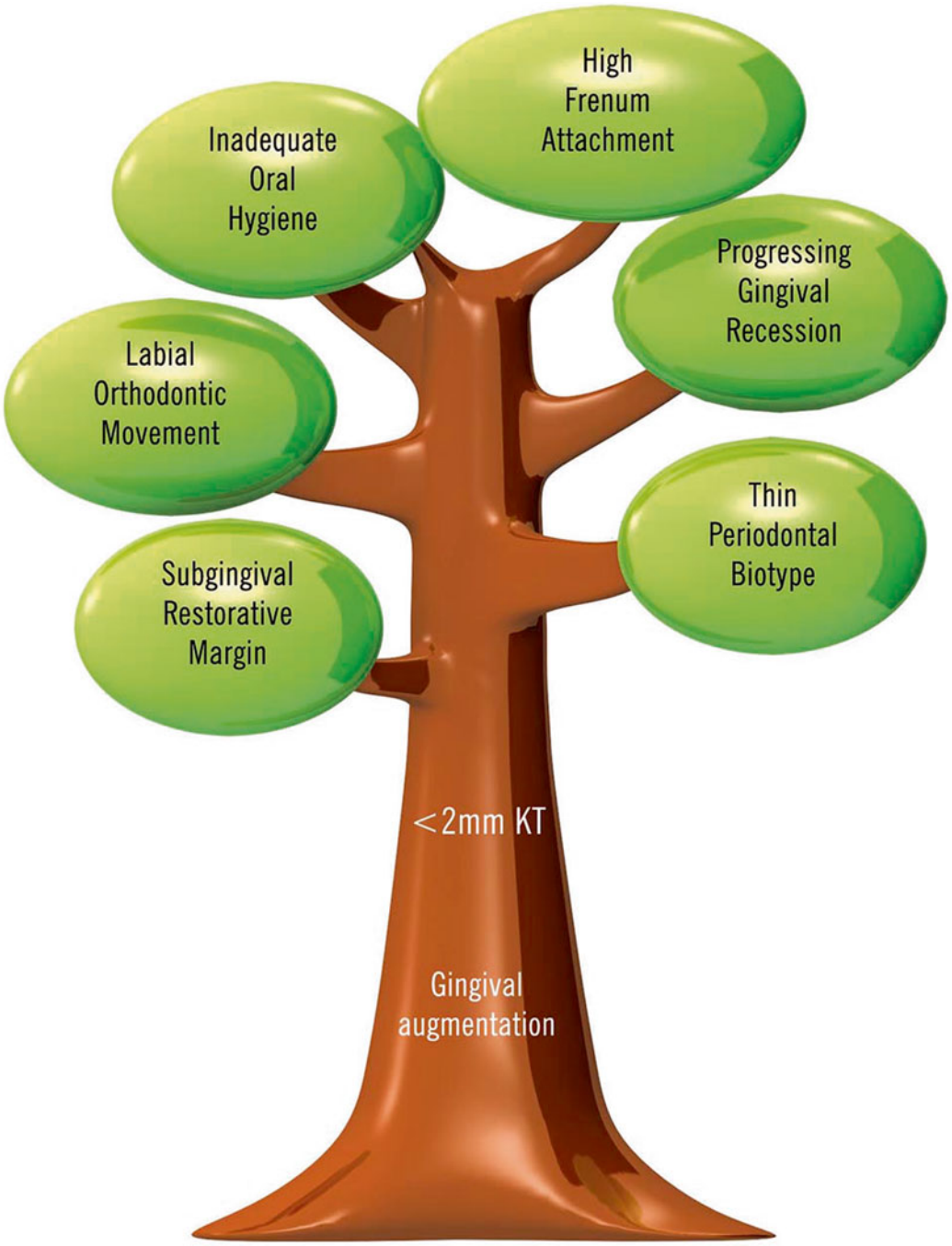

Fig. 8.2 Decision tree for soft tissue augmentation in sites not requiring root coverage (Based on the study by Kim and Neiva [3])

8.2 Concluding Remarks on the Decision-Making Process Involving the Use of Evidence-Based Periodontal and Peri-implantar Surgery

The bunch of procedures and variations of techniques of periodontal plastic surgery may definitely improve the results of treatment of most patients and individual conditions. On the other hand, the achievement of a state of clinical health before executing any "plastic surgery" is extremely necessary. The key of success is linked to the capacity of the patient on performing an adequate dental biofilm control, the lack of clinical inflammation of the periodontal tissues, and the rational use of procedures (the simplicity of how things are). These three "mimetic" elements will create the roadmap for good functional and esthetical prognoses.

Fig. 8.3 Periodontal health and adequate biofilm control

Fig. 8.4 (**a**, **b**) Periodontal health and adequate dental biofilm control

Fig. 8.5 (**a**, **b**) Rational use of procedures – decrease of recession depth solely achieved by a frenectomy

References

1. Miller Jr PD. A classification of marginal tissue recession. Int J Periodontics Restorative Dent. 1985;5:9–13.
2. Chambrone L, Tatakis DN. Periodontal soft tissue root coverage procedures: a systematic review from the AAP Regeneration Workshop. J Periodontol 2015;86(2 Suppl):S8–51.
3. Kim DM, Neiva R. Periodontal soft tissue non-root coverage procedures: a systematic review from the AAP regeneration workshop. J Periodontol 2015;86(2 Suppl):S56–72.