

Coronally Advanced Flap with Site-Specific Application of Connective Tissue Graft for the Treatment of Multiple Adjacent Gingival Recessions Associated With Root Caries and Non-Carious Cervical Lesions

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Clinical evaluation/ Diagnosis

A 53-year old female came for an examination reporting aesthetic demands, and warring about the loss of gingiva, with the exposure of brown part of the teeth. No systemic pathology were reported. A novel treatment-oriented classification (EFP - AAP Workshop 2018) based on the assessment of gingival phenotype, gingival recession severity and associated cervical lesions was used to help the clinical decision process. After a periodontal chart of the patients, the clinician recorded a mucogingival condition with gingival recessions associated with root caries and non-cariou cervical lesions (NCCL). All the teeth were classified with new classification of gingival phenotype and gingival recession recording: interdental attachment level, recession depth, gingival phenotype, root surface condition (presence / absence of NCCL or caries) (step < 0.5 mm or + step > 0.5mm) and the detection (A = detectable, B = undetectable) of the cementum enamel junction (CEJ).

Treatment goals

Mucogingival deformities are a group of conditions that affect a large number of patients. Gingival recession (GR) in particular is a highly prevalent condition that can affect up to 88% of the population over 64 years old. Since life expectancy is rising and people are retaining more teeth it is therefore important to define anatomic/morphologic characteristics of mucogingival lesions and other predisposing conditions or treatments that are likely to be associated with occurrence of gingival recession. Approximately 50% of GR defects present with associated root surface damage, typically from the development of non-cariou cervical lesions (NCCL) When a GR is associated with a NCCL, they form a combined defect, which frequently requires specific treatment protocols. Performing periodontal plastic surgery in combination with restoration can successfully treat gingival recession associated with non-cariou cervical lesion.

Description of clinical/surgical procedures

In all the quadrants, restorative procedure was performed 1 w before surgery and was carried out to reconstruct the NCCL coronal portion. The resin composite restoration was placed, finished and polished and apical margin of restoration was established to be 1 mm apical to the estimated CEJ position. The bilaminar technique adopted consisted of either the multiple CAF proposed by Zucchelli and de Sanctis with or without vertical releasing incision with a site-specific adjunct of CTG. The CTG was harvested from the palat as an epithelial connective graft and subsequently de-epithelialized in an extra-oral modality. The CTG was sutured at the CEJ with interrupted sutures to the base of the de-epithelialized anatomical papillae. The flap (elevated split-full-split-thickness) was then coronally advanced and the insertion of muscles present in the thickness of the flap removed. The flap was than sutured with modified sling sutures anchored around the palatal cingulum of teeth with GR.

Clinical outcomes

Composite restoration of the NCCL combined with MCAF+CTG can successfully treat gingival recession associated with non-cariou cervical lesion. This technique performed similarly in terms of root coverage, provided better gingival margin contour, dentin hypersensitivity reduction, and more harmonious aesthetic results than mucogingival surgery without composite restoration. Based on these concepts, it was reported that a partial restoration, limited to the crown portion of the NCCL, might be performed in association with CAF + CTG to treat B+ class combined defects. At 6 months, the primary and secondary outcomes were to obtain complete root coverage, aesthetic improvement, reduce dentin hypersensitivity, modification of gingival phenotype and resolve cervical lesions (cariou and NCCL).