

Case Report

Management of Gingival Recession using Coronally Advanced Flap combined with Bracket Application: A Case Report

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Abstract

Gingival recession is a term that designates the oral exposure of the root surface due to a displacement of the gingival margin apical to the cemento-enamel junction. The treatment of gingival recession is needed for reducing root sensitivity and improving aesthetics. When multiple recession defects affecting adjacent teeth in aesthetic areas of the mouth are present, patient-related considerations suggest the selection of surgical techniques that allow all gingival defects to be simultaneously corrected with the soft tissue close to the defects themselves. In our case it was difficult to protect and achieve the most possible coronal position of the GM during early healing period with routine periodontal plastic surgery techniques we used orthodontic brackets along with coronally advanced flap to maximize the stabilization of the immediate postoperative flap location.

Key words: Bracket, Coronally Advanced Flap, Recession

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Introduction

Presence of an "adequate" zone of gingiva is considered critical for the maintenance of marginal tissue health and for the prevention of continuous loss of connective tissue attachment. An "inadequate" zone of gingiva would favor attachment loss and gingival recession because of less tissue resistance to apical spread of plaque-associated gingival lesions.

The treatment of gingival recession is needed for reducing root sensitivity and improving aesthetics.¹⁻³ Coronally advanced flap (CAF) is the frequently used mucogingival procedure to achieve root coverage.⁴ Several authors have utilized CAF by shifting the residual gingiva in a

coronal direction alone⁵ or in combination with free gingival graft, connective tissue graft,^{6,7} with bioabsorbable/ non-resorbable membranes, according to the principles of guided tissue regeneration.⁸

Case Report

A 50 year old female patient reported to the Department of Periodontics of Dr Z. A. Dental College, AMU, Aligarh for treatment of receding gums. She had also grade I mobility in upper anterior tooth and sensitivity in all teeth. There was a notch present on the facial surface on 21 at cement-enamel junction. (Fig. 1) IOPA



Figure 1: Pre-operative view



Figure 4: Suspensory sutures including brackets



Figure 2: Incision and flap retraction



Figure 5: Post-operative 15 days view



Figure 3: Filling of graft in vertical defect and membrane placement



Figure 6: Pre-operative IOPA radiograph of upper anteriors



Figure 7: IOPA radiograph after root canal therapy in 21



Figure 8: Post-operative 3 months IOPA of upper anteriors

radiograph revealed vertical defect in relation to 21. (Fig. 6) Treatment was started with motivation, oral hygiene instructions and oral prophylaxis. Traumatic bite was corrected by grinding of lower anterior teeth. Notch was filled by resin modified GIC. Root canal treatment was done in 21 and patient was recalled after 1 month for the management of gingival recession. (Fig. 7) After 1 month there was slight reduction in mobility in 21. Then the gingival recession was corrected using coronally advanced flap+bracket

application along with bone graft and membrane application in relation to 11 and 21. (Fig. 2-4) After 15 days brackets were removed and there was marked gain in clinical attachment. (Fig. 5) Post -op 3 months radiograph revealed bone gain between central incisors. (Fig. 8)

Discussion

When multiple recession defects affecting adjacent teeth in aesthetic areas of the mouth are present, patient-related considerations suggest the selection of surgical techniques that allow all gingival defects to be simultaneously corrected with the soft tissue close to the defects themselves.⁹ Also attempt should be made to reduce the number of surgeries and intra-oral surgical sites, together with the need to satisfy the patient's aesthetic demands, must be taken into consideration for success of treatment of the multiple adjacent recession defect.¹⁰

As it is important and hard to protect and to achieve the most possible coronal position of the gingival margin during early healing period with routine periodontal plastic surgery techniques, Ozcelik O et al. used orthodontic buttons to maximize the stabilization of the immediate postoperative flap location. Coronally advanced flap+button/bracket (CAF+ B) technique is designed to treat multiple gingival recession defect.¹¹ The most important part of the CAF+ B technique is to guarantee the anchorage of the coronally displaced flap. The suspended sutures used in this technique provided the maximum coronally positioning of the flap and in addition stabilized the flap in the coronally displaced position during 2 weeks of wound healing. Pini-Prato et al. reported the complete root coverage results in CAF+ B group were better than reported in a recent controlled non-randomized clinical study by in which CAF alone was used as a control root-

coverage surgical procedure for the treatment of multiple gingival recessions.¹² Zucchelli & De Sanctis mentioned that in case of free or connective tissue graft, even if complete root coverage is surgically accomplished, the result may not be completely satisfactory in terms of excessive thickness or poor blending of the area.¹⁰ In addition, the hardness of the treatment technique is another issue which determines the success rate of the periodontal plastic surgery. Achievement of complete root coverage associated with poor color blending of the treated area, irregular tissue texture or inadequate contiguity with adjacent soft tissues may also affect the aesthetic perception of treatment.^{13,14}

Application of buttons/brackets on the teeth is easy, inexpensive and highly acceptable. Patient perception of the immediate post-operative pain was found less in comparison to other techniques. The elongation of the chair-time could most likely affect patient perception of the procedure's difficulty. Although bonding the buttons/brackets on the teeth (about 2 min. per tooth) takes some time in the CAF+ B technique but there is no displeased patient report in respect to these procedures.¹¹

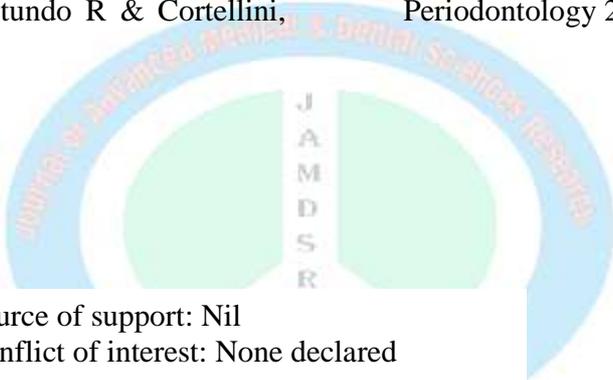
Conclusion

The usage of the orthodontic buttons/brackets and suspended sutures with CAF technique is effective method in treating multiple adjacent type gingival recessions. This can be considered as promising technique in terms of both clinical (root coverage, keratinized tissue height) and patient centered (immediate post-operative pain, aesthetics) parameters.

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