

Case Report

The VISTA Approach to Treat Gingival Recession in Esthetic Zone - A Case Report

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ABSTRACT

Many therapeutic options are available for treatment of gingival recession defects with predictable outcomes in isolated defects. The connective tissue graft along with coronally advanced flap procedure is considered to be the gold standard but present with certain disadvantages such as harvesting of graft from donor site and scar formation at the recipient site. To overcome this, as an alternative method, the present case report throws light on minimal invasive technique for root coverage of maxillary incisors with vestibular incision subperiosteal tunnel access i.e. VISTA technique.

Key words: Gingival recession, VISTA, platelet rich fibrin, root coverage.

INTRODUCTION

Gingival recession is exposure of the root surface due to migration of the marginal periodontal tissues apical to the cemento enamel junction. ^[1] Gingival recession is a common clinical condition resulting into dentinal hypersensitivity, pain, carious and non-carious lesions, poor esthetics and plaque retention.

There are various anatomic, pathologic, physiological and iatrogenic factors causing recession. It can be caused because of periodontal disease, improper aggressive tooth brushing, inflammation or occlusal discrepancies. It can be either localized or generalized. Gingival recession is one of the main esthetic complaints of patients. ^[2] Miller's classification for gingival recession is as follows: ^[3]

Class I-Recession that does not extend to the mucogingival junction with

no periodontal bone loss in the inter dental area. Here complete i.e. 100 % root coverage can be achieved.

Class II-Recession that extends to or beyond the mucovingival junction, with no interdental bone loss. Here also, complete root coverage is achievable i.e.100%.

Class III-Recession that extends to or beyond the mucogingival junction, with some periodontal attachment loss in the inter dental area or malpositioning of the teeth. Only 50-70% i.e. partial root coverage is possible to the height of the contour of inter proximal tissue.

Class IV-Recession that extends to or beyond the mucogingival junction, with severe bone and/or soft-tissue loss in the inter dental area and/or severe malpositioning of the teeth. Root coverage is unpredictable i.e. only 10% and requires adjunctive orthodontic treatment.

SCTG-based procedures provide the best outcomes for clinical practice because of their superior percentages of mean root coverage and complete root coverage and the significant increase of keratinized gingiva when compared with most of the other procedures. [4] The connective tissue graft in conjunction with a coronally advanced flap is the gold standard treatment for gingival recession defects. [5] The use of coronally advanced flap with acellular dermal matrix derivative, emdogain, and collagen matrix, platelet rich fibrin also provide gains, many of them similar to SCTG-based procedures, and thus these may be considered as adequate substitute treatment approaches. [4]

Present case report is about minimal invasive technique for coverage of Miller's Class I gingival recession by VISTA i.e. Vestibular incision subperiosteal tunnel access technique along with PRF i.e. platelet rich fibrin.

CASE REPORT

A 35 years old male patient reported to the Department of Periodontology, Tatyasaheb Kore Dental College and Research Centre, Kolhapur. With Miller's Class I recession in relation to 11, 21. The patient also presented with

recession in other teeth. At the first visit after recording case history of the patient and routine investigations, thorough scaling and root planing was performed and patient was recalled after one week. For 11 and 21 root coverage was planned by VISTA approach.

After giving local anaesthesia, a vestibular access incision was given in midline of the maxillary labial frenum. The incision was continued through the perioosteum creating a subperiosteal tunnel. Through the vestibular access incision the periosteal elevator was introduced and inserted between the periosteum and bone to elevate the periosteum, creating the subperiosteal tunnel. The incision was extended one or two teeth beyond the teeth requiring root coverage and beyond mucogingival junction to mobilize gingival margin and allow coronal repositioning.

The tunnel preparation was also extended beneath the papilla without making any surface incision. The root surface recontouring was performed using diamond bur. Later a freshly prepared platelet rich fibrin PRF was trimmed according to the desired dimension of the recipient site and extended 3-4 mm beyond the area to be covered.



Figure 1: Preoperative view



Figure 2: Vestibular access incision and Subperiosteal tunnel prepared



Figure 3: Insertion of the platelet rich fibrin



Figure 4: Coronally anchored suture with Composite stops



Figure 5: 3 months postoperative view

This PRF membrane was placed into the subperiosteal tunnel through the vestibular access incision. The membrane and the mucogingival complex was advanced coronally and sutured at the new position by 4-0 mersilk suture and composite stops at the mid coronal point of each tooth. Periodontal dressing was placed to cover the surgical area. Patient was advised post operative instructions and strict oral hygiene maintenance. Patient was prescribed analgesics for 3 days. Suture removal was done after 10 days and follow up after 3 months.

DISCUSSION

There are numerous periodontal plastic surgical techniques undertaken for root coverage that restore the periodontal tissues to healthy, esthetic and functional state. It is very important to determine the

appropriate technique depending upon the clinical situation to yield satisfactory, successful and predictable results in management of gingival recession.

Gingival recession is not always localized. Many times multiple teeth are involved. Esthetic appearance of anterior maxillary teeth while smiling is the main indication for root coverage. Although considered the current gold standard, the CTG presents a number of disadvantages, including the need for harvesting at a distant donor site, limited tissue availability, and increased potential for post harvesting morbidity. These disadvantages are even more problematic in patients with multiple contiguous gingival recession defects, since optimizing esthetic results in part depends on simultaneous treatment of all contiguous recessions. [6,7]

In the VISTA technique, a single vestibular incision can provide access to an entire region, including visual access to the underlying alveolar bone and root dehiscences. Careful subperiosteal dissection reduces the tension of the gingival margin during coronal advancement of the flap. Also the anatomical integrity of the interdental papillae is maintained by avoiding papillary reflection. In the maxillary esthetic zone, superior alveolar arteries, branches of the internal maxillary artery, run in a superior-inferior orientation. Hence a vertically oriented initial incision is less likely disrupts the blood supply than horizontally positioned incisions. Placement of the initial incision and a tunnel entrance within the maxillary frenum results in little to no visible scarring thus leading to superior esthetic outcome in this critical restorative esthetic zone. [8]

Coronally anchored suturing technique minimizes micromotion of the regenerative site where the gingival margin may be subject to displacement during facial movements thus preventing scar formation. As an alternative to CTGs, this technique allows treatment of multiple gingival recession defects without requiring secondary graft harvesting procedures. [8]

In a study by Zadeh et.al, [8] in VISTA technique Bio guide membrane was used for root coverage for maxillary anterior teeth. Recombinant human platelet-derived growth factor BB saturated onto a matrix of beta-tricalcium phosphate was introduced using VISTA over root dehiscences to enhance periodontal healing. They also introduced a novel method of stabilization of the gingival margins, referred to as coronally anchored suturing to maintain the coronal positioning during healing. In their study, two clinical cases documentations for treatment of Miller Class I and II defects demonstrated stable, long-term outcomes.

Although VISTA has been applied in other regions, its application is most advantageous in the esthetic zone.

Another study by Chatterjee et.al [9] reported two clinical cases with Miller's Class I and Class II multiple recession defects treated successfully by VISTA approach and PRF membrane achieving 96% of root coverage thus arriving at a inference that multiple recession defects can be treated with VISTA technique without the need for secondary harvesting procedure.

CONCLUSION

To conclude, this technique can be used successfully in the treatment of multiple gingival recessions as an alternative to some of the limitations of the current techniques that include morbidity associated with harvesting of autogenous donor tissues and scar formation at the recipient site resulting from surface incisions. Further clinical data and long term follow up can provide evidence regarding the predictability of this treatment outcome in multiple recession defects.

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