

VISTA: THE NEW VISTA FOR TREATING MULTIPLE GINGIVAL DEFICIENCIES

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ABSTRACT

Partial denudation of the root surface by apical displacement of the gingival tissues leads to gingival recession, which can lead to clinical problems such as, hypersensitivity, root caries, cervical root abrasions, difficult for plaque control and aesthetic concern. Recently, new techniques have been suggested for the surgical treatment of multiple adjacent recession type defects. The current case report introduces a novel minimally invasive approach applicable for both isolated recession defects as well as multiple defects in the maxillary anterior regions. This case report describes the use of the Vestibular Incision Sub Periosteal Tunnel Access (VISTA) technique in combination with Connective Tissue Graft (CTG) in the treatment of gingival recession defects.

Conclusion: The use of CTG along with VISTA technique allows clinicians to successfully treat multiple gingival recession defects.

KEY WORDS

Gingival recession, VISTA, CTG

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INTRODUCTION

Gingiva is defined as the fibrous investing tissue covered by keratinized epithelium that immediately surrounds a tooth and is contiguous with its periodontal ligament and with the mucosal tissues of the mouth.¹ Gingival recession is the location of the gingival margin apical to the cemento-enamel junction.¹ It causes root caries, erosion, dental hypersensitivity and frequently compromises dental and gingival aesthetics.² There are 4 types of factors that aid the development of gingival recession, such as, anatomical factors like lack of keratinized gingiva, tooth mal-alignment, shallow vestibule etc, inflammatory factors like gingivitis, periodontitis, iatrogenic factors like orthodontic treatment, factors related to trauma like toothbrushing injury.³

Four types of recession defects were categorized by Miller 1985, based on the evaluation of soft and hard periodontal tissues.⁴ The classification is reported below:

- Class I- Marginal tissue recession, which does not extend to the mucogingival junction (MGJ). There is no periodontal loss (bone/ soft tissue) in the interdental area and 100% root coverage can be anticipated.
- Class II- Marginal tissue recession, which extends to or beyond the MGJ. There is no periodontal loss (Bone/soft tissue) in the interdental area and 100% root coverage can be anticipated.
- Class III- Marginal tissue recession, which extends to or beyond the MGJ. Bone/soft tissue loss in the interdental area is present or there is a mal-positioning of the teeth, which prevents the attempting of 100% root coverage. Partial root coverage can be anticipated
- Class IV- Marginal tissue recession, which extends to or beyond the MGJ. Bone/soft tissue loss in the interdental area and/ malpositioning of teeth is so severe that root coverage cannot be anticipated.

Different treatment approach used for root coverage with reasonable extent of success, gingival recession involving many teeth has always remained the actual problem. Systemic reviews considered autogenous connective tissue graft (CTG) technique and coronally advance flap as a gold standard for gingival recession coverage. Many studies revealed



[Figure 1]



[Figure 2]



[Figure 3]



[Figure 4]



[Figure 5]



[Figure 6]



[Figure 7]



[Figure 8]



[Figure 9]



[Figure 10]



[Figure 11]



[Figure 12]

the long term efficacy of CTG in maintaining root-coverage.⁵

The current case report is about a minimally invasive technique VISTA, i.e., Vestibular Incision Sub-periosteal Tunnel Access technique which allows easy access to multiple involved teeth and also repositioning of the gingival margin coronally with CTG.

CASE REPORT

A 42 year old male patient came to the Dept. of Periodontics, GNIDSR, Kolkata with the chief complaint of sensitivity to cold water in upper front teeth region and aesthetic appearance [Figure 1]. No such relevant medical and dental history was noted on clinical examination. Miller's Class I gingival recession with respect to 12, 11, 21, 22 [Figure 2, 3].

Gingival recession height, width of keratinized gingiva, probing pocket depth were taken as clinical parameters. The case is selected for VISTA technique with connective tissue graft (CTG). Patient was informed about the surgical procedure and consent was taken. After routine investigation and scaling & root planing, patient was recalled after 1 week.

SURGICAL TECHNIQUE

After giving local anaesthesia with 2% lignocaine and 1:80000 adrenaline in maxillary labial vestibular region the approach began with root odontoplasty using diamond bur to reduce any cervical prominences of roots. Roots were conditioned with 10% tetracycline for 3 mins to eliminate smear layer.⁶

RESULTS

TOOTH NO.	12	11	21	22
GINGIVAL RECESSON (PRE OPERATIVE)	3mm	4mm	4mm	3mm
GINGIVAL RECESSON (POST OPERATIVE)	1mm	0mm	0mm	0mm
ATTACHMENT GAIN	2mm	4mm	4mm	3mm

DISCUSSION

According to American Academy of Periodontology, mucogingival therapy is defined as non-surgical and surgical correction of the defects in morphology, position and/or soft tissue and underlying bone.¹ There are numerous surgical techniques used for root coverage. The main indication of root coverage is aesthetic outcome in anterior region.^{7, 8} The minimally invasive VISTA technique has several advantages over the other tunnelling techniques like

- Preservation of vascular supply by making a single incision remote from the therapeutic area and keeping the mucoperiosteal surface intact by making the tunnel sub-periosteally.
- Ability to mobilize the tunnel in a tension free manner by accessing the vestibular depth.
- Preserving the papilla since surface incisions are made remotely.
- Pressure that we have applied by far away gingival margin causes necrosis.
- The rigid fixation of the gingival margins introduced with the present coronally anchored suturing technique minimizes micro-motion of the regenerative site.⁵

The VISTA technique began with a full thickness flap incision in maxillary anterior frenum [Figure 4]. The location of access incision depending on the site to be treated. Elevation of a sub periosteal tunnel by microsurgical periosteal elevator [Figure 5].

The tunnel was extended one or two teeth beyond the teeth requiring root coverage and beyond MGJ to mobilize gingival margin and allow coronal repositioning. The sub periosteal tunnel is extended interproximally under each papilla as far as the embrasure space permits without making any surface incision through the papilla. Connective tissue being harvested from the premolar-molar area of palate using double incision technique and criss-cross sling suture was done in palate [Figure 6, 7]. The graft secured in the tunnel with 4-0 vicryl resorbable suture. Once the graft was positioned properly [Figure 8], the mucogingival complex was then advanced with non-

- Little to know visible scarring thus leading to superior aesthetic outcome in this critical aesthetic zone.⁵

The CTG is the most common mucogingival procedure with satisfactory outcome. In a study by Chambrone L. and Tatakis DN concluded that sub epithelial CTG based procedure provided the best outcomes for clinical practice because of their superior percentages of mean and complete root coverage as well as significant increase of keratinized tissue.^{9,10}

The VISTA approach combined connective tissue graft in this case report has favourable outcome better than other conventional procedure for multiple gingival recessions.

CONCLUSIONS

To conclude, VISTA along with CTG can be successfully used in multiple root coverage procedure. Although, VISTA has been applied to all regions but its application is most advantageous in aesthetic zone. However, further studies with large samples and longer duration is needed to determine the actual success rate and treatment outcome in multiple recession defects.

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