IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 2 Ver. I (Feb. 2016), PP 52-56
www.iosrjournals.org

A Fantastic Aprroach for Multiple Recession Coverage: Vestibular Incision Subperiosteal Tunnel Access Technique (Vista)-A Case Report

[1]Dr.Bhawana Pawar, [2] Dr.Kruttika Bhuse, [3]Dr.Arvind Shetty, [4]Dr.Devanand Shetty

[1,2] Resident, [3] H.O.D & Professor, [4] Professor ,Department of Periodontics and Oral Implantology, D Y Patil University School of Dentistry Nerul, Navi Mumbai.

Abstract: *Gingival recession is the apical migration of the gingival margin beyond the cemento-enameljunction (CEJ).Gingival recession is a common occurrence and its prevalence increases with age .The recession of the gingival, either localized or generalized, may be associated with one or more surfaces, resulting in attachment loss and root exposure, which can lead to clinical problems such as root surface hypersensitivity, root caries,cervical root abrasions, difficult plaque control, and diminished cosmetic appeal and aesthetic concern. Marginal gingival recession, therefore, can cause major functional and aesthetic problems, and should not be viewed as merely a soft tissue defect, but rather as the destruction of both the soft and hard tissue. New materials and techniques are being developed these days to obtain predictable root coverage. This article describes the use of vestibular incision subperiosteal tunnel access (VISTA) technique inCombination TYPE –I Collagen GTR membrane (Heliguide™). The patient age 35 year old came to the Department of Periodontology with the chief complaints of poor esthetics and hypersensitivity due to Miller's advanced class II was selected for VISTA technique in combination with collagen membrane. A novel method of stabilization of the gingival margins is also introduced, referred to as coronallyanchored suturing, designed to maintain the coronal positioning during healing. The use of bioresorbable type I collagen along with VISTA technique allows clinician to successfully treat multiple recession defects.*

Keywords*: Type- I collagen membrane ,Heliguide™,VISTA,Multiple gingival recession coverage*

I. Introduction

Gingival recession is defined as the apical migration of the junctional epithelium with exposure of root surfaces. [1]. It can cause major functional and esthetic problem and has been related clinically to a higher incidence of attachment loss, hypersensitivity, root caries and smile related concerns.[2]Gingival recession is a common occurrence and its prevalence increases with age [3].Many therapeutic options are available for treatment of gingival recessiondefects, though many of these are better suited for treatment of isolated defects. 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. In patients with multiple contiguous gingival recession defects, these disadvantages are even more problematic, since optimizing estheticresults in part depends on simultaneous treatment of all contiguous recessions.[14]Various tunnel techniques have been described in order to maintain the recipient site esthetics and to prevent relapse of recession.[4] These procedures while maintaining the critical papillary integrity & avoiding vertical releasing incision, allow management of multiple recession defects at the same time without involving the second surgical site. This entails making an access incision in the maxillary anterior frenum, followedby elevation of a subperiosteal tunnel. VISTA allows for both access as well as an opportunity to coronally reposition the gingival margins of all involved teeth.

The current report describes the technique for the treatment of advanced Miller's class II defect most beneficial in the esthetic zone. [7]. Various classification have been proposed but most commonly used is Miller's classification.

Miller's Classification of Recession-Type Defects[12]

Class Condition of Recession (possible)

Class I Recession does not extend to the mucogingival junction and is not associated with 100% .Interdental bone resorption.

Class II Recession extends beyond the mucogingival junction with no interdental bone resorption.

Class III Recession is associated with interdental proximal bone resorption and one proximal 50% to 70%root exposition.

Class IVRecession There is mesial and/or distal proximal bone resorption with exposure of more than 0% to 10%.

Complete root coverage has been clinically defined on the basis of the following criteria[13]:
(1) The marginal tissue reaches the level of the Cementoenamel junction (CEJ);
(2) Clinical attachment is present;
(3) Sulcus depth is 2 mm or less; and
(4) Bleeding on probing is absent.
The purpose of the current report is to introduce clinicians to a minimally invasive, growth factor–mediated approach to treating multiple recession defects within the maxillary esthetic zone.

II. Surgical technique

A 35 year old male patient came to the department of periodontology DY.Patil Dental College,NaviMumbai,with the chief complaints of hypersensitivity and esthetic problem in the maxillary anterior region due to Miller class II recession defect was selected for GTR associated VISTA technique. Clinical parameter noted were recession height, probing pocket depth, clinical attachment loss (using UNC 15 probe). Patient was informed about the surgery and patient's consent was taken
Initial preparation of recipient teeth included thorough scaling and root planning. Detailed medical and dental history. Patient was systemically healthy necessary complete blood investigations and Periapical radiographs was taken. After 3 weeks following non surgicaltherapy.Patient had called for recession coverage procedure.the field block was given in the maxillary labial vestibular region with 2 % lignocaine& 1:80,000 adrenaline.
The vestibular vertical access incision was given. The location of access incision depends on the site being treated. The incision will be made through the periosteum to elevate a subperiosteal tunnel, exposing the facial osseous plate as well as the root dehiscence. This tunnel will be extended at least one or two teeth beyond the teeth (14-24) requiring root coverage to mobilize gingival margins and facilitate coronal repositioning. Additionally, the subperiosteal tunnel will be extended interproximally under each papilla as far as the embrasure space permits, without making any surface incisions through the papilla.
A resorbable TYPE I collagen membrane (Heliguide™) was trimmed to fit the dimensions of the surgical area.The membrane's width was adjusted to extend at least 3 to 5 mm beyond the bony dehiscences overlying the root surface. Then the collagen membrane was inserted inside the subperiosteal tunnel.
Once the membrane was properly positioned, the mucogingival complex and the membrane was then advanced coronally and stabilized in the new position with the coronally anchored suturing technique. Suturing was done with non resorbable 4-0 Ethicon suture. The suture was tied so that the knot is positioned at the midcoronal point of each tooth. For wider teeth or when coronal repositioning creates excessive tension, an additional suture will be placed. Each tooth will then be conditioned for the attachment of suture to the tooth. Then the coronally advanced sutures was secured to the facial aspect of each tooth with light cure composite resin(3M) , which eventually prevent apical relapse of the gingival margin during initial stages of healing. The vertical incision was approximated and sutured. Patients was prescribed an antibiotic coverage, Cap amoxicillin 500mg for 3 days and analgesics if required. Patient was then advice to use Chlorhexidine mouth wash twice daily for up to 2 weeks after surgery .Postoperative instruction was given.
Sutures at the access incision was removed after 1 week and coronally anchored bonded sutures removed at the 3-week postoperative visit.The patient was recalled at 1 month and 6 month postoperatively for follow up.

Multiple Miller Class I and II Maxillary
Recession defects at baseline extend from canine to canine.

Using a midline frenum incision, a subperiosteal tunnel was created.

Coronal advancement of the gingival margins and bonding of the modified horizontal mattress sutures to the midcoronal position on the teeth.

A resorbable collagen membrane Type-I (HELIGUIDE TM) guided through the tunnel and properly positioned to cover all bony dehiscences overlying the root surfaces.

The midline incision was approximated and sutured primarily with multiple 5-0 ETHICON sutures. Initially, gingival margins were positioned coronally beyond thecementoenamel junctions

After 6 months of follow-up,complete root coverage was observed at all six treated teeth, along with sustained gains in keratinized gingiva, linear root coverage, and clinical attachment levels.

III. Discussion

The search for the perfect root coverage technique has taken many differing approaches.Moreover the root coverage obtained should be aesthetic to the patient and the clinician.Several techniques have been used over the years with various degrees of success.[7]The advanced coronally repositioned flap can be used when the keratinized gingival tissue apical to the recession is greater than or equal to 3 mm.Different modifications have been described including the following.Two vertical incisions are made extending beyond the mucogingival junction. An extension of the intrasulcular incision, however, can avoid the vertical incision with the interposition of a membrane integrating the guided tissue regeneration (ie,resorbable and nonresorbablemembrane and Alloderm) within the root coverage techniques.[8,9]The semilunar coronally repositioned flap technique requires the oral surgeon to make a semilunar incision parallel to the free gingival margin of the facial tissue, a partial dissection, and coronally positioning this tissue over the denuded root.

An important technical difference between the VISTA and other tunneling approaches and more classical techniques of gingival augmentation is the degree of coronal advancement of the gingival margin advocated during the procedure.Placement of the initial vertical incision and a tunnel entrance within the maxillary frenum results in little to no visible scarring, assisting in maximization of the esthetic outcome.As noted earlier, the gingival margin, with its attached collagen membrane, is advanced to the most coronal level of the adjacent interproximal papillae rather than to the cementoenamel junction. Sutures are then secured to the facial aspect of each tooth, effectively preventing apical relapse of the gingival margin during the initial stages of healing but compensating for some degree of apical migration during the healing period.As noted in both presented cases, apical migration of the gingival margin over relatively long periods of follow-up appears either minimal or nonexistent with this tunnel procedure.One of the major obstacles to regenerative healing is micromotion,which promotes formation of scar tissue.The rigid fixation of gingival margins introduced with the present coronally anchored suturing technique minimizes micromotion of the regenerativesite.Reduction of micromotion has proven to be a major advantage of the present technique over conventional methods, where the gingival margin may be subject to displacement during facial movements. [4]VISTA technique is a careful subperiosteal dissection that reduces the tension of the gingival margin during coronal advancement while at the same time maintaining the anatomical integrity of the interdental papillae by avoiding papillary reflection.In addition to careful preparation of the subperiosteal tunnel, addition of type I collagen membrane (Heliguide™) can lead to the guided tissue regeneration in the root dehiscence area.The outcome of this study came favorably better than other conventional technique for multiple gingival recession.

IV. Conclusion

Multiple contiguous gingival recession defects, however pose significant functional and esthetic problems to large numbers of the population. The need to simultaneously address multiple recession defects is often problematic and hampered by inherent short-comings of some of the current procedures. Although VISTA has been applied in other regions, its application is most advantageous in the esthetic zone.

Refrences

[1.] Serino G, Wennström JL, Lindhe J, Eneroth L. The prevalence and distribution of gingival recession in subjects with a high standard of oral hygiene. J ClinPeriodontol 1994;21(1):57-63.

[2.] Reddy S, Prasad MJS, Agnihotri J, Amudha D, Singh S, Krishnanand P. Management of multiple recession defect using modified coronally advanced flap alone or with PRF. *Int J Health Sci Res* 2013;3:133-138.

[3.] 3.Kassab MM, Cohen RE. The etiology and prevalence of gingival recession. J Am Dent Assoc 2003;134(2):220-225.

[4.] 4.Zadeh HH. Minimally invasive treatment of maxillary anterior gingival recession defects by vestibular incision subperiosteal tunnel access and platelet-derived growth factor BB. *Int J Periodontics RestorativeDent* 2011;31:653-660.

[5.] 5.Healing of gingival recession using collagen membrane with a demeneralizedxenograft,aRCT.DanieleCardaropoli,Giuseppe,int.j periodontics restorative dentistry 2009,29;59-68.

[6.] Wang HL. Guided bone regeneration using bone grafts and collagen membranes. *Quintessence Int 2001;32:504-15*.
[7.] Danan M. La greffeconjonctiveenfouie. L'information Sanitaire 2005;511:630-634.
[8.] Grupe HE, Warren RF Jr. Repair of gingival defects by a sliding flap operation. J Periontol 1956;27(2):92-99.
[9.] Smukler H. Laterally positioned mucoperiosteal pedicle grafts in the treatment of denuded roots: A clinical and statistical study. J Periodontol 1976;47(10):590-595.
[10.] Platelet Rich Fibrin (PRF) Reinforced Vestibular Incision Subperiosteal Tunnel Access (VISTA) Technique for Recession Coverage. Dr. Geeti Gupta*, Dr. KomalPuri*, Dr. Mansi Bansal*, Dr. Manish Khatri*, Dr. AshishKumar. Department of Periodontology, Institute of Dental Studies and Technologies, Modinagar,India. Clinical Advances in Periodontics; Copyright 2014.
[11.] Miller PD Jr. A classification of marginal tissue recession. Int J Periodont Rest Dent 1985;5(2):8-13.