

Recession Coverage using Coronally Repositioned Flap with Bioresorbable Collagen Membrane: A Case Report

Case Report

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Introduction

In recent years, periodontal therapy, has been increasingly focused on aesthetic benefits for patients that includes the soft tissue component in addition to tooth replacement and colour.

According to the description of " It is "surgical modality used to treat anatomic, developmental, or traumatic defects of the gingiva and alveolar mucosa." The goal of periodontal plastic surgery is to replace missing tissue up to the cemento-enamel junction and to restore a natural, healthy gingival sulcus.

The apical displacement of soft tissues from the cemento-enamel junction is known as gingival recession (CEJ). Laterally positioned flaps, double papillae flaps with or without guided tissue regeneration (GTR), free gingival autografts, and autogenous subepithelial connective tissue grafts are among the therapies available. Coronally advanced flap (CAF) is one of them.

Miller's Class I and Class II gingival recessions can be treated using the Coronally Advanced Flap (CAF). It is a predictable mucogingival surgical technique that achieves root coverage. The best clinical results in terms of root coverage have been observed when the gingival edge is positioned at the cemento-enamel junction (CEJ) and the flap is passively fitted to the exposed root surface.

Root prominence, presence of frena, type of periodontium, recession depth, and vestibular depth are some of the anatomical factors that may impact the movement of the coronally & advanced flap towards the CEJ. Norberg [1] was the first to intro-

duce the coronally Advanced flap, which was later described by Mutschelknauss and Restrepo¹, and other researchers used surgical techniques to cover denuded roots in cases of marginal periodontitis by coronal repositioning of mucoperiosteal flaps [1].

GTR-based methods produced comparable clinical results as previous root covering treatments and resulted in the development of new attachments. To avoid a second surgical procedure to remove non-resorbable membranes, resorbable membranes were chosen over them.

Gingival recession is treated with a range of non-resorbable and resorbable membranes.

In this case report, root coverage has been done in Class I Miller's gingival recession by coronally advanced flap along with collagen membrane.[2]

Case Report

A male patient aged 40-years patient reported to the DEPARTMENT OF PERIODONTICS AND ORAL IMPLANTOLOGY, SANTOSH DEEMED TO BE UNIVERSITY GHAZIABAD with a complaint of receding gums and localised sensitivity to hot and cold in the upper left anterior tooth region . The patient was in good health, with no systemic diseases or bad habits like smoking. The patient was identified with Class I gingival recession in relation to 13 on clinical examination. In 1st visit Phase-I therapy was SRP done with Gracey curettes on the exposed root surface (Hu-Friedy) and recalled after 15 days. The following surgical operation was carried out after the signing of

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Figure 1. Pre-Operative View Of Recession In Relation To 13.**Figure 2. Incision Given Partial Thickness Flap 13.****Figure 3. Membrane Placed Over The Defect.****Figure 4. Flap Coronally Sutured. periodontal Dressing Given.****Figure 5. 3 Months Post- Operative View 6 Months Post-Operative View**

the informed consent form.[2]

Clinical Procedure

On patient scheduled visit after SRP the Recession depth (RD), sulcus depth (PD), breadth of keratinized gingiva (KG), and gingival thickness (GT) were clinical parameters that were collected to assess the outcome of the patients Keratinized tissue had a width of 3 mm and a thickness of 1.5 mm. At the interdental papillae of teeth with the recession, split-thickness horizontal incisions were made. To measure the thickness of keratinized gingiva apical to the recession reamer with stopper was used, after the application of local anesthetic (2 percent lignocaine with adrenaline (1:2,00,000)). On the line angle of distal teeth, two oblique vertical releasing incisions with beveled edges that extend into the alveolar mucosa were provided without engaging the neighboring papilla. The flap was raised in the coronally apical direction using a split-full-split -thickness technique. At the interdental papilla and 3–4 mm apical to the recession defect partial thickness flap was

reflected . To generate vascular beds for the CAF surgical papilla, the facial interdental papilla was de-epithelized coronal to the horizontal incisions. Curettes were used to instrument the root surface, root conditioning was done using tetracycline solution (125 mg tetracycline/mL saline). To removes the smear layer, provide antibiotic coating, inhibit collagenase and promotes the formation of type I collagen. After conditioning, root surfaces were washed with normal saline and air-dried. The collagen membrane was sutured to the root surface and surrounding, the reflected flap was coronally reposition 1 mm coronal to the CEJ. vertical incisions were closed with interrupted sutures using 3-0 Vicryl sutures and sling sutures were used at the interdental papillae. Because the superficial releasing incision retains enough blood supply, it was used to relieve the lip pull on the gingiva. After the Coe pack was placed on the surgical site. [4, 5]

Post-Operative Care

Post op patients was advised to use mouth rinse containing 0.12

percent chlorhexidine gluconate for two weeks. Patients were administered systemic antibiotics (Augmentin 625 twice daily for three days) and told to follow normal postoperative periodontal mucogingival guidelines, including not tugging on their lips to inspect the surgery site. At baseline, one month, and three months, clinical data such as recession length and width were recorded.[3]

Clinical Observation

The result showed a significant reduction in length and width of recession with the use of the collagen membrane 3 months post-operatively, there was a reduction in recession length, recession width, and clinical attachment level gain. The width of keratinized gingiva was also found to be increased, the patient was extremely satisfied with the final clinical outcome and appearance.[2]

Discussion

The collagen membrane closely resembles the foundation membrane of human mucosa, which aids gingival cell attachment.

It offers numerous therapeutic benefits, including good handling qualities, reduced operative time since it does not require a second surgical site, the availability of an endless amount of uniformly thick barrier material, and postoperative maintenance. As compare to healing by long junctional epithelium more stable the natural attachment is produce by GTR-based root covering.4.Collagen is the most abundant structural protein in the connective tissues of the body. Collagant helixes are made up of amino acids linked together to create a triple helix of elongated fibrils that are primarily

seen in fibrous tissue. The coronally advanced flap can treat Miller Class I and II recession with excellent consistency and stability.

The findings of this technique demonstrate that collagen membrane can be used along with coronally advanced flap to treated gingival recession and further increasing the thickness of keratinized gingiva also.

Conclusion

The current findings indicate that combination of CAF and collagen membrane is a predictable therapeutic option for treating gingival recessions.[4]

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