



Efficacy of Bioresorbable Fish Collagen Membrane Along With Advanced Plasma Rich Fibrin In Treatment Of Gingival Recession: A Case Report.

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Abstract

Gingival recession is defined as “the displacement of marginal tissue apical to the cemento-enamel junction (CEJ). Periodontal therapy aims at regeneration of lost periodontium and controlling of periodontal infection. Many techniques has been used in treatment of gingival recession but the most commonly used are osseous grafts and guided tissue regeneration. Collagen is an extracellular protein playing a major role in connective tissue. In fish largest concentration of collagen is found in skin, skeleton, fins and air bladder.

Keywords: Advanced Plasma rich fibrin.Gingival recession, Periocol GTR.

Introduction

Gingival recession is defined as the displacement of the marginal gingival tissue apical to the cemento-enamel junction with exposure of the root surface to the oral environment¹. It is one of the signs of the periodontal disease and has been found to be existing at most of the ages, beginning early in certain populations. Many classifications of recession have been reported in the literature. In 1968, Sullivan and Atkins classified soft tissue defects in mandibular incisors into four classes: “Narrow,” “wide,” “shallow,” and “deep.”² Miller in 1985 proposed classification for gingival recession³ the most employed one .Other classifications, which have been

proposed to classify recession defects, include Smith's index for gingival recession,⁴ Mahajan's classification,⁵ Cairo et al.'s classification,⁶ and Kumar and Masamatti's classification. Etiology of gingival recession includes Age, Faulty tooth brushing, Tooth malposition, Gingival inflammation, Abnormal frenal attachment, Trauma from occlusion, Masochistic habits, Which may be localized or generalized. Gingival recession is important not only from an esthetic point of view, but loss of gingival tissue may result in root sensitivity, cemental erosion, and root caries.⁷ According to Nyman et al (1982) suggested the placement of physical barrier between root surfaces and flap. This technique was called as Guided Tissue Regeneration.

Case Report

A 23 year old Male patient came to the Department of Periodontics with a Chief complaint of Sensitivity and Bleeding in the localized area of Lower Anterior teeth since 2 months. Sensitivity increases on taking hot and cold substances, with no abnormalities detected in past Dental, Medical, Family and Personal history, no parafunctional habits, with no history of bone loss but has trauma from occlusion for which the patient rejected to undergo for the treatment.

On clinical examination of Gingiva the colour was pale pink with bleeding on probing and with buccal gingival recessions affecting the mandibular right central incisor of 3 mm, respectively, with buccal probing depths (PD) of 2 mm. Routine serological laboratory investigations, biochemical investigations for blood sugar was done. Correlating all the above, a final diagnosis was done as class 2 Gingival recession.

The objective of the surgical treatment was to improve root coverage and esthetics. Hence The treatment plan consisted of initial therapy (scaling and root planning),

periodontal plastic and regenerative surgery coronally advanced flap with Periocol GTR and A-PRF.

Following local anesthesia, the CAF (Coronally advanced flap) was designed for the treatment of localised gingival recession in the lower right central incisor with no. 15 surgical blade, intracrevicular incisions was made and a full-thickness flap was raised in order to expose 2 to 3 mm of buccal bone.

The root surfaces were conditioned with a 24% ethylenediaminetetraacetic acid gel for 2 minutes in order to remove the smear layer. After rinsing the surgical area with saline, the Periocol GTR membrane (Type 1 collagen membrane of fish origin) was trimmed into suitable size to cover the defect, before placement it is soaked in saline water to improve adhesive property, after stabilizing the A-PRF (centrifugation time 1500 rpm, for 14 min, 10ml blood collected from the anti-cubital fossa) was condensed in the defect site and flap was secured with interdental sutures, periodontal dressing was given for a week and patient was recalled after 15 days, 1,3 months.

3 months after surgery the esthetic result was stable, no increase in gingival recession was recorded at the buccal surface of the lower central incisor and the overall camouflaging of the treated area with respect to the adjacent soft tissue was even better.

Discussion And Conclusion

In this case report Periocol GTR membrane a novel bioresorbable collagen membrane of fish origin was used. As collagen is an extracellular protein playing a major role in connective tissue, abundant protein performing multiple functions, this periocol is also indicated in treatment of periodontal intrabony defects and furcations. The main benefit in using bioresorbable membranes is that a second surgical procedure for removal is not required. In accordance with the study conducted by Santhosh et al⁸, Vijendra Singh⁹ showed an improvement in intrabony

defects by using collagen membrane. A- PRF was also used in this study to provide better regeneration as A-PRF when compared to other PRF consists of more leucocyte cells. According to Sameera et al.¹⁰ when A-PRF was used in treatment of gingival recession showed better results in terms of regeneration. Therefore Periocol in combination with APRF showed better results in terms of healing and also in better regeneration, esthetics, without any graft rejection or any allergic conditions to the patient. However further investigations with larger sample sizes are needed to conform or reject the above findings.

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Case Report Figures:



Fig a: Pre operative recession depth measurement with probe.



Fig b: Intracrevicular Incisions given and flap elevated.



Fig c: Root conditioning done with 24%EDTA



Fig d: Placement of fish collagen membrane.



Fig e: Advanced Prf.

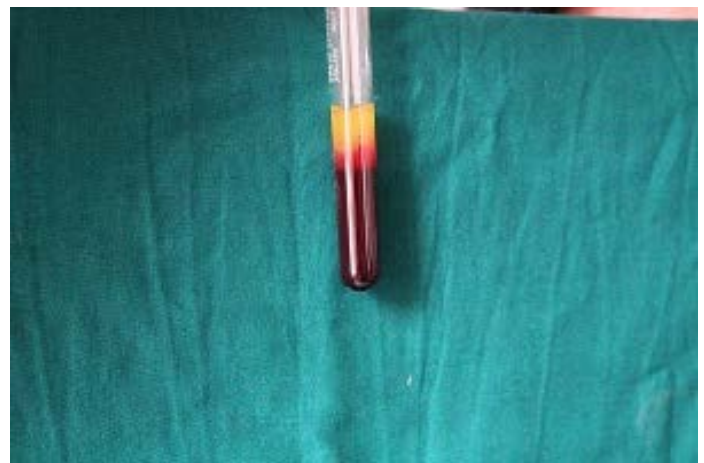


Fig f: preparation of A-prf.



Fig g: Suturing done.



Fig h: Periodontal dressing given.



Fig i: Post operative image