

Double papilla repositioned flap procedure for the treatment of single tooth recession – A case report

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Abstract- Recession is apical displacement of gingival margin to Cemento-enamel junction which is associated with certain etiological factors like vigorous tooth brushing habit, Aberrant frenum, Periodontitis, tooth position etc. Various procedures can be done to achieve root coverage by many procedures like Double papilla, Free gingival graft, connective tissue graft, pedicle grafts. Cohen and Ross described Double papilla procedure with success rate of 80% in covering denuded root surface. It is mostly used for single tooth recession to increase width of attached gingiva along with root coverage. This procedure is little sensitive as two adjacent interdental papilla need to be joined on mid surface of denude root to make it one flap.

Index Terms- Gingival recession, Root Coverage, Double papilla

I. INTRODUCTION

Gingival recession is apical displacement of gingival margins to Cemento-enamel junction (CEJ). It can be localized or generalized and associated with factors like inadequate tooth brushing, aberrant frenum pull, periodontitis, high muscle attachment, iatrogenic factors, and smoking. ^[1]

Baker and Seymour (1976) ^[2] described pathogenesis of recession and explained different stages in development of

recession. Initially there is normal or subclinical inflammation, later on there is proliferation of epithelial rete pegs. In later stage increased epithelial proliferation resulting in loss of CT resulting in separation and recession of the gingival tissues due to loss of nutritional supply. ^[3] Sullivan and Atkins (1968) Classified recession into according to their morphology but it was not useful to predict outcome of root coverage procedure thus later on Miller's (1985) gave a classification which is based on two things Firstly it describes extent of gingival recession defect, and another is extent of soft & hard tissue loss. ^[4]

Interdental bone loss is more resistant than radicular bone, clinical predictability is good, good colour tissue match are the main advantages of Double papilla. ^[5]

Case Report

A male patient name Munir, 37 years age came to our Department of Periodontics, I.T.S Dental College & Hospital Greater Noida with a chief complaint of recession of gum in relation to the Upper left maxillary lateral. (Figure1,2)

On examination lymph nodes were non palpable, lips were competent and face was bilaterally symmetrical. On intraoral examination, the tooth showed gingival marginal recession of 4mm. On the buccal aspect with loss of interdental papilla between central and lateral incisor teeth. Recession was classified as class-Class-II gingival recession according to millers classification



FIGURE 1, 2- POCKET PROBING DEPTH IRT 22

II. SURGICAL PROCEDURE

Firstly curettage was done to plane exposed root surface, followed by root bio modification with EDTA (figure 3,4). Then Blade no. 15 was used to make a V-shaped incision on the recession tooth. Horizontal followed by Vertical incision was given to the mesial and distal interdental papilla (figure 5). Then partial-thickness pedicle flap elevated until the tissue is mobile so we can be suture it on new desired position. (figure 6)

Interrupted with sling sutures were used to achieve proper stabilization on the mesial and distal papilla using a silk suture (figure 7). Pressure for 5 min applied with gloved finger for homeostasis followed by periodontal dressing. Post-surgical instructions were given to the patient (figure 8). The patient was told not to brush the operated area and was advised to use chlorhexidine gluconate mouth wash of 0.2% twice daily for two weeks.



FIGURE 3- CURRETTAGE



FIGURE 4- ROOT BIOMODIFICATION (EDTA)



FIGURE 5- VERTICAL INCISION FOLLOWED BY HORIZONTAL & VERTICAL INCISION



FIGURE 6- SPLIT THICKNESS FLAP RAISED



FIGURE 7- INTERRUPTED SUTURES ALONG WITH SLING SUTURE



FIGURE 8- COE-PACK GIVEN

III. RESULTS

Sutures and coe-pack was removed after 10 days followed by clinical examination. Surgical site showed Complete healing

along with root coverage gain of 1mm. Patient is recalled on 3, 6 month for follow upto 1 year. Oral hygiene instruction was given. (Figure 9,10)

On 3 month surgical site showed complete healing, with increase width of keratinized along with root coverage of 1mm.



Figure 9- post-operative (10 days)



Figure 10 – post operative (3month)

IV. DISCUSSION

Gingival recession can cause aesthetic or hypersensitivity problems thus necessitate the need for root coverage [6]. Various techniques can be done to cover recession defects [7] such as Free gingival graft (FGG), Laterally positioned flap (LPG), Double papilla flap, Guided tissue regeneration(GTR), and allograft. The selection of the procedure depends on degree of recession, teeth involved, width of attached gingiva and postoperative colour harmony.

To regenerate periodontal tissue first connective tissue attachment to root is achieved by doing root bio modification, generally by EDTA. It is a chelating agent which exposes the collagen to enhance connective attachment to root surface and shows enhanced wound healing when compared with other agents. Kassab MM (2006) [8] study showed significant root coverage when EDTA was applied before regenerative procedure, whereas Modica et al (2000) [9] showed no significant changes when EDTA was applied prior to surgical procedure.

This case report describes double papillae pedicle graft surgical technique for the treatment of single tooth marginal tissue recession, and to increase width of attached gingiva, It was introduced by Cohen and ross (1968) [10] in which two interproximal papilla were joined on mid surface of teeth to cover recession in areas of insufficient gingiva. In this study Double papillae pedicle graft showed excellent root coverage when it was done correctly, following all the indication of this technique. Acunzo R et al (2015) [11] study showed 88% root coverage with increase keratinized tissue when Double papilla flap procedure was done for isolated tooth defect, Similar results was shown in a study done by Manisundar N et al (2014) [12].

Other procedures can also be combined with double papilla for better results. Harris RJ (2002) [13] and Sunil S et al (2017) [14] and Benjamin Tanet al (2003) [15] treated recession defect with connective tissue graft along with double papilla, results showed root coverage along with increased amount of keratinized tissue (3mm vs 1.8mm). There are few limitations of this procedure such as technique sensitive as it is difficult to join the two adjacent papilla on the mid surface of tooth to make it one flap, Complete Root coverage difficult to obtain unless combined

with other techniques as this procedure is mainly done to increase width of keratinized gingiva. [10]

V. CONCLUSION

Clinician should be aware of the procedure to be done for particular type of gingival recession. From this case report it is concluded that Double papilla flap procedure when done for single tooth recession showed predictable root coverage along with good colour matching with adjacent tissue when treated for class II recession

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