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CASE REPORT

# TARNOW'S TECHNIQUE WITH STABILIZING SUTURES -A CASE REPORT

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**ABSTRACT**

Periodontal plastic surgery mainly establishing an ideal pink aesthetics through soft tissue reconstruction of gingival recessions. Transplantation of autogenous soft tissue grafts are considered a gold standard treatment modality for coverage of gingival recession defects with predictable and aesthetic outcomes. Hence various surgical techniques are used in combination with such grafts for gingival recession coverage. This case report presents a treated case of Miller's Class II gingival recession defect in relation to maxillary right second premolar with adequate root coverage as well as increase in keratinized gingiva using Tarnow's technique with Stabilizing sutures.

**KEYWORDS:** Gingival recession, Tarnow's technique, Root coverage, Pink aesthetics

## INTRODUCTION

Marginal tissue recession is a common condition in Periodontology and is characterized by the displacement of the gingival margin towards to the mucogingival junction with root surface exposure; it may occur at isolated or multiple areas of oral cavity with different extension degrees. Today, "marginal tissue recession" has been the most accepted term, because the tissue showing the problem can be the alveolar mucosa instead of the gingiva. When present; marginal tissue recessions may implicate in compromising the patient's periodontal health, aesthetic and comfort. Concerning to periodontal health, the recessions are capable of acting as a local modifying factor for the installation and progression of periodontal disease, because an alteration in the normal gingival contour (regular concave arch) occurs, which collaborates for greater bacterial plaque.

Gingival recession has been defined as the apical displacement of the gingival margin. Localized gingival recession is an unesthetic condition that is usually observed over the labial aspect of prominent teeth and may be associated with root caries and hypersensitivity. Histologically, the collapse of gingival tissue results in attachment loss by destruction of the periodontal connective tissue and alveolar bone. The exposed root surface has been a therapeutic challenge to clinicians for many years. The most frequent etiologic factors associated with recessions are inflammatory periodontal disease, traumatic tooth brushing and inadequate attached gingival dimensions.[1] In the last three decades, a number of techniques have been proposed to obtain root coverage and to improve patients' aesthetics, quality of life and oral health including Semilunar coronally repositioned flap (Tarnow's technique), pedicle flaps (PF), free soft tissue autografts (FSTA), subepithelial connective tissue graft (SCTG), coronally advanced flaps (CAF), SCTG with CAF and guided tissue regeneration (GTR).

## CASE REPORT

34 years old male patient reported to our Department (Periodontics) with chief complaint of receded gums and mild sensitivity in the upper right back tooth region for the past 3 months. It was diagnosed as Millers Class II Recession (Fig 1). Root conditioning was done with doxycycline for 3-5 minutes (Fig 2). A split-thickness flap was raised under local anaesthesia. A semilunar external bevel incision was given directed coronally following the curvature of the gingival margins 8mm from the crest of interdental gingiva. A split thickness sulcular incision extending to the semilunar incision was given carefully to elevate a partial thickness flap (Fig 3). After which a partial-thickness flap was raised and advanced 6 mm coronal to CEJ and pressed with moist gauze for 5 minutes to stabilize it. Additional stabilizing suture was placed in the area and periodontal pack (Coe pack) was placed for 1week.

Fig 1: Pre-Operative photograph

Fig 2: Root Conditioning

Fig 3: Split-thickness flap raised

Fig 4: Sutures placed

Fig 5: Post-Operative photo after 3 months

## DISCUSSION

A denuded root surface frequently results from a combination of predisposing and triggering/aggravating factors. Predisposing factors for gingival recession include bone dehiscence, insufficiency of width and/or thickness of keratinised gingiva, tooth malposition and high frenal attachment.[1,2] Triggering factors include traumatic abrasion, abfraction, erosion, inflammation (dental plaque, calculus, gingivitis, and periodontitis) and iatrogenic factors (inappropriate fixed prostheses, poorly designed partial dentures, operative procedures, orthodontic treatment, and traumatic occlusion)[3].

The primary goal of periodontal plastic and esthetic therapy is root coverage. Periodontal plastic surgery is defined by World Workshop in Clinical Periodontics 1996 as surgical procedures performed to correct or eliminate anatomic, developmental, or traumatic deformities of the gingival. Many periodontal plastic procedures have been described in the past. There is extensive data in the literature which provides an insight into the various surgical modalities used for the treating gingival recession. But limitations of these procedures are lack of predictability, compromised blood supply, postoperative discomfort, and postoperative morbidity. The traditional semilunar coronally repositioned flap being presented has many advantages like no tension on the flap, no shortening of the vestibule, no sutures are needed because of the lack of tension of the tissue being coronally positioned, minimum discomfort to the patients and single operative site[4]. The main indication for carrying out this technique is adequate width of attached gingiva, Class I buccal/labial defects, where aesthetics is affected and cannot be controlled by non-surgical therapy. The procedure can also be used where there has been recession around previous full coverage restorations in the anterior section of the mouth, where the patient has a high enough lip line when smiling to show the denuded roots[5].

The root coverage was 97% at 1 month and 95% at 3 months. Santana et al who showed a mean root coverage of 41.78 % root coverage. Bettencourt in 2007[7] used microsurgical techniques and fibrin glue adhesive and found root coverage of 90.1%. The microsurgical technique might have improved the handling of thin and delicate soft tissues and more sensitive detection of root coverage in shallow defects. Also in SLF, root coverage may not be uniform especially at the margins due to the greater dimension of the donor tissue than the recipient site which may cause instability of the flap. Santana et al also reported a lack of stability in root coverage might be due to the apical pull of the contracted wound at the area of the semilunar horizontal incision. In this study, there was a deterioration of the stability of the flap at 6 months. This may be due to the increase in plaque and gingival index at 6 months, which was not statistically but may be clinically significant. Proper oral hygiene maintenance and brushing technique may be crucial for follow up. Gingival recession is characterized by displacement of the gingival margin apically from the cemento-enamel junction resulting in root surface exposure. It is a common condition and its extent and prevalence increase with age. A significant proportion of the adult population is affected by this alteration which may lead to aesthetic concerns and complaints of hypersensitivity.

In the present case, maxillary right second premolar presented with unesthetic Class II gingival recession with inadequate width of attached gingiva. Hence, semilunar coronally positioned flap technique with sutures was the procedure of choice. In this case report significant improvements in clinical parameters such as recession height and width and clinical attachment level was observed. A 100% root coverage was seen in 15 and 95% in 3 months (Fig 5). Also the technique offers advantages like ease of performing. Long-term clinical and histological investigations are needed to confirm these results with larger sample size.

## CONCLUSION

Semilunar coronally positioned flap (Tarnow's technique) procedure is a simple technique which has high patient acceptance and provides satisfactory results for treating class I & II recession defects especially in the aesthetic zone. Further studies with larger sample size are needed in order to evaluate the long-term stability of the obtained positive results.

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There are no conflicts of interest.

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