SEMILUNAR CORONALLY RELOCATING FLAP (TARNOW TECHNIQUE): A CASE REPORT

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***Abstract*- The apical migration of the junctional epithelium with exposure of the root surfaces is known as gingival recession. Gingival recession can be reversed using a variety of root covering procedures. A semilunar incision is performed parallel to the facial tissue's free gingival edge in order to create a semilunar coronally positioned flap (Tarnow procedure), which is then coronally positioned over the denuded root. In comparison to other coronally positioned flap techniques, this one has the advantage of tension free flap, shrinking the vestibule, and not interfering with the papillae that already present. This case report evaluates the efficacy and application of this method for treating gingival recession.**

***Key words:* Gingival recession, Coronally positioned flap, Tarnow technique, Root covering procedures.**

INTRODUCTION

The apical movement of the junctional epithelium with root surface exposure is known as gingival recession.[1] Gingival recession is a worry for patients due to a variety of etiological causes and consequences. The development of subgingival calculus, bone dehiscence, forceful tooth cleaning, frenal pull, incorrect restorations, orthodontic therapy, and faulty tooth alignment are some of the etiological factors. [(2,3)] Patients with gingival recession typically experience hypersensitivity and aesthetic distress. The patient is at risk for root caries and root abrasion/erosion due to gingival recession.[4] The dentistry literature has evaluated periodontal plastic surgery and non-surgical therapies for gingival recession. [(5,6)] This case study evaluates the efficacy and application of the Tarnow technique's semilunar coronally relocated periodontal flap for the treatment of gingival recession.

Indications[7]

- There should be a sufficient area of keratinized tissue already present. If not, a free autogenous soft tissue graft should have been used to produce it two months prior.
- When recession-related aesthetics is a problem that cannot be managed non-surgically, the surgery may be used.

The method can also be applied to the front portion of the mouth if there has been recession around prior full coverage restorations.

Case Report

A male 44-year-old reported to the outpatient department of Periodontology with a primary complaint of having sensitivity in the upper right anterior region for the past six months (Fig.1).

Figure 1

Despite using desensitising paste, he did not experience much alleviation. The patient had no medical issues and was in good health.

On oral examination, it was found that he exhibited Miller's class I recession, measuring 2 millimetres of isolated gingival recession in proportion to 13 and 14, respectively, on the buccal aspect (Fig.2a and Fig.2b).

An informed agreement from the patient was obtained after a thorough explanation of the surgical procedure. Scaling and root planing were performed prior to the surgery, and a good oral hygiene regimen was established.

Technique

The initial preparation, which includes scaling and root planing two weeks before surgery, is carried out after the proper case selection. The surgical site is given a sufficient amount of anaesthesia on the day of the procedure. It's important to carefully level the exposed root surfaces. The incision is made with a blade size no. 15. Following the scalloped outline of the free gingival edge, a semilunar incision is produced (Fig. 3)

While it extends to the papilla's centre, the papillary tip is unaffected. If the width of the keratinized tissue is not sufficient to cover the recession, the incision may be extended into the alveolar mucosa. In order for the apical portion of the flap to rest on bone once it is displaced, the incision should curve apically mid-facially. There is made a crevicular incision. It then continues as a full thickness flap all the way up to the apical semilunar incision. The tissue is now totally freed from the underlying bone. The periosteal elevator reflected the tissue (in its entire thickness) between the two incisions. There was a thorough and through passageway (Fig.4).

Figure 4

The crescent shaped facial tissue is then displaced coronally towards the cementoenamel junction so as to cover the denuded root surface (Fig 5).

Figure 5

The tissue is compressed in place with a moist gauze for 5 minutes and composite anchored sutures were given. A periodontal dressing and tinfoil were applied over the area (Fig 6a and Fig 6b).

Figure 6a

Figure 6b

The patient received the required post-surgical instructions and drugs. The patient was instructed to use mouthwash containing 0.2% chlorhexidine gluconate 12 hours per day for a week. The patient was instructed to refrain from brushing the area where the procedure was performed for 10 days and then to begin brushing using a soft nylon bristle brush. Additionally, he was told to brush gently for the next two to three weeks after the pack was removed. At one-week follow-up was conducted (Fig 7a, Fig 7b and Fig 7c).

Figure 7a

Figure 7b

Figure 7c

DISCUSSION

Numerous authors have made reference to the coronally relocated periodontal flap in the literature. One of the pioneers in describing a sort of coronal repositioning flap that was applied during gingivoplasty of the associated gingiva was Kalmi.[8] By coronally repositioning the mucoperiosteal flaps, Nordenram and Harvey's surgical methods covered the denuded root [(9-11)]. Many other people, including Sumner and Ward, modified the coronal relocated flap. A free gingival graft was also implanted during the two-step coronally relocated periodontal flap described by Bernimoulin et al. [(12-14)] These several articles had confirmed the coronally relocated flap's clinical efficacy as a root covering treatment.

Tarnow first introduced the semilunar coronally relocated flap in the late 1980s. Since no sutures are needed and the flap is not under any tension, this method has an advantage over other coronally positioned flaps. Most significantly, it does not interact with the pre-existing papillary unit, which means that the vestibule depth is unaffected.

In cases of Miller's Class 1 gingival recession with limited labial sulcus depth, the semilunar flap is suggested. A free autogenous soft tissue graft can be tried if an appropriate zone of keratinized tissue is not present. When aesthetics is a top priority, this treatment can be used.[15] Additionally, it can be utilised to address gingival recession around prior full coverage anterior restorations. Numerous case reports, including those by Jahangirnezhad, Ramya, and others, have already been published. These additionally demonstrated similar root coverage efficacy and emphasised the procedure's superiority to other root coverage techniques. [(16,17)]

CONCLUSION

In clinical periodontology, treating gingival recession is becoming a crucial issue because of the rising desire for cosmetic procedures. The patient frequently only smiles while exposing the most coronal millimetres of the recession, which causes problems. Therefore, mucogingival plastic surgical approaches should only comprise surgical procedures that offer the practitioner a very high percentage of total root coverage. Additionally, soft tissue graft-related surgically treated areas with excessive thickness or poor colour blending should be avoided.

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