



Tarnow's Technique: A Minimally Invasive Surgical Method To Manage Gingival Recession

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Abstract

Gingival recession is the apical migration of gingival margin with the exposure of root surface.¹ Surgical root coverage could be a useful therapy when aesthetics is the priority and periodontal health is maintained.²

Tarnow's technique/Semilunar coronally positioned flap is performed with a semilunar incision on the facial tissue, followed by the coronal positioning of this tissue over the denuded root. This technique has the advantage that, no tension is applied on the flap, shortening of vestibule and interference with the existing papillae are avoided, and sutures are not required.

This case report describes Tarnow's technique as a simple recession coverage technique in the treatment of class I gingival recession, when appropriate case selection is made and accurate surgical procedure is carried out.³

Keywords: Gingival recession, Tarnow's technique, root coverage procedure, semilunar coronally positioned flap, dentinal hypersensitivity

Introduction

Gingival recession refers to the exposure of the root surface due to displacement of the gingival margin apical to the cemento-enamel junction (CEJ).^{4,5,2}

Etiology of gingival recession is multifactorial and includes calculus, faulty tooth brushing, alveolar bone dehiscence, high frenal attachment, position of the tooth and iatrogenic factors like, orthodontic forces, improperly designed partial dentures and subgingival restoration margins.⁶ It may also be caused due to inadequate attached gingiva, oral habits resulting in gingival laceration, pocket reduction periodontal surgery, chemicals, smoking and trauma from occlusion.^{7,9}

Various surgical techniques have been proposed to manage gingival recession, including various flap designs, autogenous grafting, orthodontic treatment,

and guided tissue regeneration. This article describes one of the minimally invasive methods to manage gingival recession, i.e., Tarnow's technique.¹⁰ Tarnow described this technique in 1986. Here, an incision is made that follows the curvature of free marginal gingiva and extends towards the papillae, following which a split-thickness flap is dissected. The flap is repositioned and held in place with light pressure and a periodontal dressing.^{11,10}

Case Report

A 31-year-old male patient reported with a chief complaint of hypersensitivity, in the upper front tooth region, in spite of using desensitizing paste for 2 months. On clinical examination, patient presented with Class I gingival recession on the maxillary right lateral incisor, measuring about 2 mm (Figure 1.a, b). After explaining the patient regarding treatment to be

performed, initial treatment involving scaling was done two weeks prior to the surgery.

Tarnow's Technique:

Using a 15c blade, a semilunar incision was made following the curvature of free gingival margin. Incision was curved apically far enough mid-facially ending into the papilla, staying at least 2 mm from the tip of papilla on either side, since this was the main source of blood supply.

Later, a split thickness dissection was made from the initial incision line coronally. This was connected with an intrasulcular incision, made mid-facially. Mid-facial tissue was then coronally positioned to the CEJ (Figure 2. a, b) and held in place with moist gauze against the tooth for 5 min. The area was then packed with a non-eugenol dressing. The dressing was changed after 5 to 7 days and removed two weeks after surgery.

Complete root coverage of the denuded root surface was observed one month after surgery (Figure 3). After three months of follow-up, 100% root coverage was still maintained (Figure 4).¹²

Discussion

Gingival recession is one of the major aesthetic concerns among patients. Various periodontal plastic surgery techniques have been used to treat gingival recession, each demonstrating different level of success. Tarnow's technique is probably the simplest and conservative, one-stage surgical procedure to manage gingival recession and its consequences.

Indications Of Tarnow's Technique:

1. Isolated gingival recession in maxillary teeth.
2. Sensitive teeth from exposed dentine secondary to gingival recession.¹³
3. Gingival recession with presence of minimal labial sulcus depth.
4. Presence of adequate keratinized tissue.¹

Advantages Of This Technique:

1. There is no shortening of vestibule.
2. There is no tension on flap after coronally repositioning it.
3. No sutures required.⁷

Limitation of this technique is its inability to yield a root coverage of more than 2 to 3 mm.¹³

Conclusion

Gingival recession and tooth hypersensitivity are common complaints of patients. Mucogingival surgery helps in re-establishing a healthy periodontium and restoring aesthetics. Tarnow's technique is one such procedure, that is quite predictable and produce satisfactory results. Hence, appropriate choice of defect and surgical technique will allow for the successful and exceedingly predictable results in the management of gingival recession, thereby reducing dentinal hypersensitivity.⁶

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Figures

Figure 1. a, b



Figure 2. a, b



Figure 3

Figure 4

