Semilunar Flap For Treatment Miller's Class I Gingival Recession (A Case Report)

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ABSTRACT

Gingiva recession is a common finding in many patients. A variety of periodontal plastic surgery procedures have been attempted in the past to treat the gingival recession deformities with varying degrees of success. This case report describes semilunar flap for the treatment of recession defect on maxillary anterior region. Treatment of gingival recession aims to improve esthetic, reduce of gingiva recession and hypersensitive. A 51 year female patient came to department of periodontics, UNPAD Stomatological hospital with a chief complaint on maxillary anterior. Patient felt a gingival recession, and hypersensitive to cold water and tooth brushing. Clinical examination reveal the recession in 12 (2 mm) which categorized as class I Miller. The case of gingival recession in maxillary anterior can be corrected using a semilunar flap technique. The treatment of gingival recession using a semilunar flap technique in this case. Evaluation was performed at the 1st, 2nd, and 4th week. Miller's Class I gingival recession in maxillary anterior can be treated with semilunar flap in maxillary anterior as therapy to cover the denuded root and reduce the hypersensitive.

Keywords: Gingival recession, root coverage, semilunar flap

INTRODUCTION

Gingival recession is a common problem in the dental patients. It is defined as the apical migration of the gingival soft tissue margin to the cemento-enamel junction with exposure of the root surface.¹ A gingival recession frequently results from a combination of predisposing and aggravating factors. Predisposing factors for gingival recession include tooth malposition, high frenual attachment, and insufficiency of width or thickness of keratinized gingiva. Aggravating factors include inflammation, trauma mechanical (vigorous tooth brushing in horizontal direction or by brushing with a hard bristle toothbrush), abfraction,
and iatrogenic factors (traumatic occlusion, restorative inadequate, partial dentures with poor designed, orthodontic treatment or periodontal treatment). It may also be caused due to bad habits resulting in gingival laceration including traumatic tooth picking and eating hard foods and smoking.2,3,4,5

Sullivan and Atkins (1968) classified gingival recession into four categories: deep-wide, shallow-wide, deep-narrow, and shallow-narrow. Miller (1985) divide gingival recession into 4 categories:5,6,7 Class I: marginal tissue recession does not extend to the mucogingival junction. There is no loss of bone or soft tissue in the interdental area. This type of recession can be narrow or wide, class II: marginal tissue recession extend to or beyond the mucogingival junction. Ther is no loss of bone or soft tissue in the interdental area. This type of recession can be sub classified into narrow or wide, class III: marginal tissue recession extend to or beyond the mucogingival junction. There is bone and soft tissue lost in the interdental area or malpositioning of the tooth, class IV: marginal tissue recession extend to or beyond the mucogingival junction. There is severe bone and soft tissue lost in the interdental area or severe malpositioning of the tooth.

It has been observed that Class I and II gingival recession shows 100% to root coverage procedures (prognosis good to excellent), Class III shows 50 to 70% success (only partial coverage can be expected), and Class III shows only 0 to 10% success (a very poor prognosis).5,8 There are many procedures that have been used for treatment of gingival recession among of them using lateral pedicle graft technique, coronal positioned flap, free gingival graft, subepithelial connective tissue auto graft, guide tissue regeneration, as well as semilunar coronally repositioned flap. Semilunar flap was initially described by Tarnow (1986) as a semilunar incision made parallel to the gingival margin of the facial tissue and coronally positioning this tissue over the denuded root. Tarnow reported the semilunar flap indicated for treatment of gingival recession in areas with minimal labial probing depth (PD) and adequate band of keratinized gingiva.3,5,6

CASE REPORT

A 51 year old female came to the department of periodontics, UNPAD Stomatological hospital with chief complaint on maxillary anterior. Patient felt a gingival recession, and hypersensitive to cold water and tooth brushing. The result of clinical examination reveal a gingival recession in 15, 14, 13, 12, 23, 24, 25, 32, 32, 41, 42. The recession defect in 12 as diagnosed as Miller’s Class I, papilla interdental not involved and radiographic imaging reveal no any bone loss (Fig.1). No relevant medical and dental history was reported. Patient’s brushing technique was also analyzed by asking her to demonstrate the technique on the dental chair. There was minimum amount of plaque seen and the gingiva was free of inflammation. This case can be corrected by semilunar flap.
CASE MANAGEMENT

Surgical Procedures

In this case semilunar flap technique was chosen to gain an optimal root coverage and favourable esthetics result. Initial treatment was done by scaling and root planing and patient was given an oral hygiene instruction. Patients were educated to use a toothbrush with soft brush and correction of brushing technique.

Prior to surgical treatment, the surgical procedure was explained to the patient and patient was given an informed consent. Surgical treatment was initiated with prophylactic and extraoral-intraoral antiseptics using betadine solution 10% (Fig.2), then local anesthesia using infiltration technique in 12 was performed (Fig.3).

Figure 1. (A) Clinical before surgery. (B) Radiographic imaging

Figure 2. Extra and intraoral antiseptic with solution betadine 10%.

Figure 3. Infiltration of local anesthesia in 12
The incision was marked on the tissues and semilunar incision was performed using #15 surgical blade at mucogingival junction. A semilunar incision was given following the outline of the gingival margin. The incision is ended at least 3 mm from the tip of the papilla, this is the area of which is rich in vascular supply (Fig.4).

Second incision (intrasulcular incision) was performed, then partial thickness flap from intrasulcular incision to semilunar incision. The incision need to be performed carefully to prevent gingival breakage (Fig.5). The facial tissues was completely released, then placed the flap to coronally cover the denuded root, then fixated for 5 minutes with a moist gauze. No suture were placed (Fig.6). Perform cleaning over surgical area with NaCl then being closure with periodontal dressing (Fig.7).

Figure 4. Semilunar incision with surgical blade #15.

Figure 5. Incision in sulcus with partial thickness flap to semilunar incision.

Figure 6. Fixation the incision to coronal for 5 minutes.
Post-operative care: The patient was prescribed 500 mg amoxicillin capsules tid for 7 days and instructed to take an analgesic (500 mg mefenamic acid, tid.) as necessary and rinse with 0.2% chlorhexidine twice daily for 1 week. Patient was advised to take soft diet and not to brush at the surgical site for at least 2 weeks after the day of surgery. Patient was given instruction to report to the clinicians if they had any discomfort following surgery. The dressing was removed after 2nd weeks and the area was irrigated with chlorhexidine. Patient was instructed 1st week, 2nd week, and 4th week recall. Evaluation was performed in 1st week, 2nd week, and 4th week which clinically show a good wound healing. Patient had no complaint after surgical intervention. At the 1st week irrigation was done using NaCl. Two weeks post-operatively periodontal pack was removed and saline irrigation was done, wound area showed reddish, edematous had still persistent, recession had decreased. The patient was monitored at regular intervals and was kept under maintenance therapy. At the end of 1 month, clinical examination was done. The recession defects showed signs of satisfactory healing and root coverage was accomplished without any post-operative complication and hypersensitivity was decrease.

DISCUSSION

Gingival recession is a major aesthetic concern in dentistry. It is a common condition and its extent and prevalence increase with age. In adult, the prevalence of gingival recession
range from 20% to 100%. It may cause dental hypersensitivity, root caries, unaesthetic gingival appearance and periodontal attachment. Gingival recession can occur locally or generally at all teeth depend of the etiology. A number of periodontal plastic surgeries have been used to treat gingival recession each demonstrating different level of success.\(^5\)

Treatment planning of gingival recession was based on its etiological factor and severity of recession. Prior to the treatment, etiological factors of the recession need to be corrected. The treatment of gingival recession could be treated with surgical and non-surgical. The purpose of recession with surgical intervention was to cover recession area and to decrease the hypersensitivity, prevent recession to be more severe and for esthetics correction essentially in anterior. The successful of the treatment was linked with surgical technique, suturing technique, and post-operative treatment.\(^4,9,10\)

This technique is a simple procedure, minimally invasive, one-stage periodontal plastic surgical procedure. It generally requires no sutures, no shortening of the vestibule, the existing papillae are not interfered, no tension on flap, and can be successfully to treat Miller’s Class I gingival recession. Semilunar flap technique can be used as a treatment procedure in patients who complain of having sensitive teeth from exposed of root the teeth and in isolated gingival recession in maxillary teeth.\(^5,10\)

CONCLUSION

Semilunar flap procedure is a simple technique for treating Miller’s Class I gingival recession which has high patient acceptance and satisfactory results, especially in the anterior esthetic zone.

REFERENCES

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