

ISOLATED GINGIVAL RECESSION TREATED WITH DOUBLE PAPILLA REPOSITIONED FLAP: A CASE REPORT

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ABSTRACT

Cosmetic treatments have become an essential part of periodontal therapy. One of the commonly used esthetic periodontal procedures is coverage of denuded root surface. Over the years, different surgical techniques are proposed to treat various gingival recession defects. In cases of isolated recession defects, the most employed techniques are the coronally advanced flap, laterally repositioned flap, free gingival autografts, and pedicle grafts. Among the pedicle grafts, the choice of using a double papilla repositioned flap is considered ideal when the tissue at the adjacent donor site is adequate. The use of wide papillae on either side of the defect helps in precise flap approximation and dual blood supply. This case report explains the treatment of class 1 gingival recession associated with dentinal hypersensitivity using a double-papilla flap technique. The promising result suggests that this technique can be used in severe gingival recession cases.

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INTRODUCTION

Gingival recession is the location of the gingival margin apical to the cement enamel junction. Some of the reasons for the gingival recession are periodontal disease and improper oral hygiene measures. Other predisposing factors are thin gingiva, a prominent root surface, labially positioned teeth, frenum pull, and bone dehiscence¹. Gingival recession (GR) is a common periodontal condition that can negatively impact esthetics, plaque control, and dentinal hypersensitivity. Moreover, the exposed root surfaces are susceptible to root caries and non-carious cervical lesion development.

In patients with good oral hygiene, longitudinal evidence indicates that untreated GR defects tend to increase in depth over time². Surgical treatment of gingival recession aims to cover the exposed root surfaces and improve esthetic appearance. Other objectives are inhibiting the progression of the ongoing recession, increasing the width of the attached gingiva, and reducing dental hypersensitivity³. Double papilla flap procedure was first proposed by Wainberg as the double lateral repositioned flap and was later refined by Cohen and Ross as the double-papilla flap. The advantages of the double-papilla flap technique such as reduced hypersensitivity, no need for the second surgical site, good color match, dual blood supply and high mean percentage of root coverage, make it an ideal choice for treating isolated recession defects⁴.

Case Report

A thirty-five-year-old male patient reported to the Department of Periodontology and Oral Implantology, St Joseph Dental College, complaining sensitivity in the lower back tooth region for the past twelve months. Intra-oral examination revealed Miller's Class I recession in the mandibular left second premolar tooth (fig. 1).



Fig 1 Pre-op profile showing 4mm of gingival recession.

An intraoral periapical radiograph revealed no interproximal bone loss. The pre-operative clinical parameters such as recession depth (RD), probing depth (PD), and clinical attachment level (CAL) were recorded with UNC 15 probe as 4mm, 2mm, and 6mm, respectively. The patient is explained about the treatment, and consent is obtained from the patient, and routine blood investigations were done.

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Treatment Plan

Based on the patient's clinical periodontal evaluation and history, thorough scaling and root planing were done one week before the surgical procedure. The double-papilla flap technique was considered as the appropriate choice of treatment due to the presence of adequate gingiva at the adjacent donor site and broad papillae on either side of the affected tooth.

Surgical Procedure

The mandibular left second premolar tooth is anesthetized using buccal infiltration containing 2% Lignocaine and 1:80,000 adrenaline. A trapezoidal flap is designed involving the base of both interdental papillae



Fig 2 Trapezoidal flap design involving the base of both interdental papillae

The flap was extended beyond the mucogingival junction to relieve the tension. The root was thoroughly planned, and convexities of the root were reduced (fig.3).



Fig 3 Elevated flap

The mesial and the distal pedicles were sutured together in the midline and secured to the interdental papilla. Vertical releasing incisions were sutured (fig. 4).

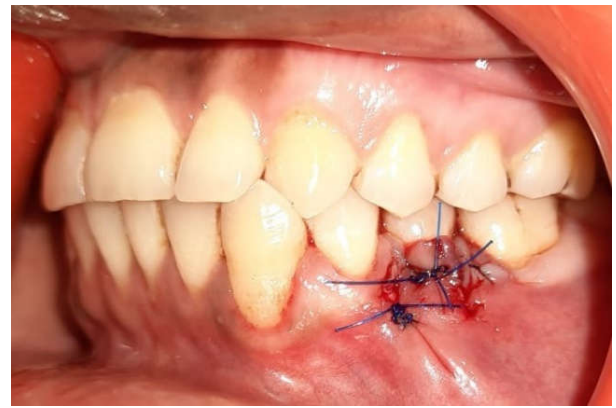


Fig 4 sutures placed

Firm, gentle pressure was applied to the flap for 2–3 min with cotton-free gauze moistened with sterile saline solution to further secure a successful connection. The periodontal dressing is given, the patient is advised not to brush the treated site for four weeks, and instead, 0.2% chlorhexidine rinse was prescribed for four weeks. After the surgical treatment, antibiotics (Amoxycillin 500mg) and analgesics (Aceclofenac 100mg + Paracetamol 500mg) were given as required.

RESULTS

Ten days post-surgery, the sutures were removed, and the area was examined. The surgical site showed root coverage of 3mm (fig. 5).



Fig 5 Post-op profile after six months

The patient was recalled after ninety days and six months. The surgical site showed full coverage. The healing was uneventful, with excellent color matching with the adjacent tissue. It showed no signs of inflammation and was firm and attached to the root surface. The root coverage achieved was structurally, aesthetically, and functionally stable at 12 months follow-up. The procedure seems to be a promising treatment option for root coverage and augmentation of keratinized gingiva.

DISCUSSION

Generally, the periodontists consider health and the adequacy of the attached gingiva. They should also focus on to create the form and esthetic appearance of the gingiva that is acceptable and pleasing to the patient⁵. In recent times, with the proper case selection and the appropriate technique from the various treatment options available, root coverage has become more predictable. Different surgical methods are practiced for root coverage, which includes coronally advanced flaps, lateral pedicle flaps, free connective tissue grafts, free gingival grafts,

etc. Indications for esthetic periodontal surgery for recession coverage include a small amount of keratinized gingiva, class I or class II gingival recession, esthetic concern, single or multiple recessions, and root hypersensitivity. The contraindications include smoking and desquamative gingivitis³.

Two critical factors that affect the root coverage outcome are

- (i) height of the interdental bone,
- (ii) interdental soft tissue adjacent to the defect.

The depth and width of the recession and the amount of avascular tooth surface in contact with a graft during the initial healing period will also affect the outcome¹.

In this case, the double papilla flap technique decision was the choice because of the presence of wide interdental papillae adjacent to the Gingival recession, presence of adequate thickness of gingiva on the recipient site.

Although the double papilla procedure is technique sensitive, it gives good results in treating isolated recessions. Cohen and Ross first proposed the partial thickness double papilla pedicle graft technique. Each method has its advantages and disadvantages. Double papilla pedicle flap has been demonstrated to be a reliable technique for root coverage. The benefits are the excellent color match, good blood supply, no need for the second surgical site, and little damage to the alveolar bone. The disadvantage is that it is technically demanding, challenge to join the two delicate papillae as if they were one flap, possible bone loss and gingival recession at the donor site⁶.

Few factors to be considered when opting for this technique

- 1. The thickness of interdental papilla should be more next to the recession
- 2. There should be a healthy periodontium adjacent to the recession to be treated
- 3. This technique cannot be practiced treating multiple adjacent recessions¹.

In this case, significant clinical root coverage was obtained without causing a recession to the adjacent teeth. Results of complete root coverage of treated teeth were following the study done by Manisundar *et al.* He concluded that double papilla pedicle graft has an advantage such as preservation of exposed bone and maintenance of attached gingiva⁶.

CONCLUSION

Over the years, several surgical procedures have been proposed for treating gingival recession. However, the choice of mucogingival surgical technique to treat a recession defect depends on the clinician's skill and the type of recession. The double papilla technique had demonstrated good esthetic results in this case report. The present case report showed optimal results in terms of root coverage, color match, and the resolution of hypersensitivity. Clinical studies using larger sample size and longer duration are advised to determine the success and predictability of this technique.

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