

100% Root Coverage in Isolated Gingival Recession with Groupe's Modification of Lateral Pedicle Graft

Dr. Junima Rajkarnikar¹

¹ Lecturer, Department of Periodontics and Implantology

College of Dental Sciences and Hospital - Nepal Medical College (CODSH- NMC)

ABSTRACT

Gingival recession is the most common mucogingival deformity and should be treated at its earliest detection. Exposed root surfaces are more likely to develop root sensitivity and root caries and pose esthetic problems. Among various procedures, laterally positioned pedicle graft is widely used successfully to cover Miller's class-I and Class-II recession defects. This article highlights on a case report in which a modified laterally positioned flap had been used for root coverage in Miller's class-I recession defect in relation to left maxillary first premolar area. Root coverage was obtained with no change in the position of gingiva at the donor site.

Key words: gingival recession, laterally positioned pedicle graft, mucogingival surgery, root coverage

INTRODUCTION

Gingival recession is defined as the displacement of the gingival margin apical to the cemento-enamel junction. It implies the loss of periodontal connective tissue fibers along with root cementum and alveolar bone. The most significant factors causing gingival recession are considered to be periodontal disease and improper oral hygiene measures; along with some predisposing factors such as thin gingiva, a prominent root surface, bone dehiscences, abnormal tooth position, frenal pull, mechanical trauma caused by tooth brushing, and iatrogenic factors such as faulty restorations or uncontrolled orthodontic movement of teeth.¹ A requirement for root surface coverage arises when gingival recession has esthetic implications, where exposure has resulted in root sensitivity, and root caries. While agreement exists relative to the indications for root coverage, there are a variety of surgical techniques that can accomplish this end.

CASE REPORT

A 28 year old male patient reported with a complaint of sensitivity in relation to upper left teeth. On examination there was Miller's Class I recession in relation to 24. The distance from CEJ to marginal gingiva was 4 mm. The width of attached gingiva was found to be adequate in the upper anterior region. Root planning was performed in 24. After local anesthesia, a no 15 blade was used to make a V-shaped incision around the apical area around the gingival recession. After removal of the V shaped incision, a submarginal horizontal incision was given extending from the mesial line angle of 24 to the distal line angle of 23 leaving the papilla intact. Vertical incision was then given extending to the mucosal tissue, the base of the flap being wider for adequate vascularity. The donor flap was then reflected using periosteal elevator. The flap should be free enough to permit movement to the recipient site, with no tension. For this, a cut back incision was given at the base of the flap. The root surface was then conditioned with citric acid of pH 1 for 60 seconds after which the area was irrigated with saline. The pedicle flap was then positioned coronally on the enamel surface of the recipient tooth.

Correspondence: Dr. Junima Rajkarnikar; e-mail: drjunima@gmail.com

Case Report

Suturing was done with a 4-0 non resorbable silk suture. A sling suture was given which was used to pull the flap and hold the tissue tightly against the neck of the tooth. A periosteal suture was also given at the mesial aspect at the mucosal area after which a Coe- pak was placed. Ibuprofen (400 mg) three times a day was prescribed postoperatively for 3 days. 0.2% chlorhexidine gluconate was also prescribed to be used twice daily for 10 days. Sutures were removed 10 days after surgery. The recession was completely covered and there was no apical displacement of gingiva at the donor site.

DISCUSSION

Laterally positioned pedicle graft, a technique which was introduced by Grupe and Warren in 1956, represents one of the first in the series of procedures of mucogingival surgery designed to cover exposed root surfaces.² The main advantages of the laterally positioned pedicle graft are that it is relatively easy and not time-consuming, it produces excellent esthetic results and no second surgical site is involved for donor harvesting. The disadvantages are that it is applicable only for single-site recession, there is danger of gingival recession at the donor site. Moreover an adequate amount of keratinized tissue at the donor site and a deep vestibule are pre-requisites.

In 1966, Grupe modified the lateral pedicle technique using submarginal incision at the donor site so that no denuded osseous surfaces would be created.³ This technique was evaluated by many investigators (McFall, 1967⁴, Smukler, 1976⁵), and the success of this root coverage procedure was found to be in the range of 69% to 72%. The laterally positioned pedicle graft is indicated in single- site recessions, with an adequate (at least 3 mm) width of keratinized oral tissue in the donor site. It should not be used in areas with a shallow vestibule, multiple adjacent recessions, and insufficient amount of keratinized tissue. However there are still many limitations, which need to be considered when this technique is applied like:

1. The interdental papillary tissue adjacent to the area of the recession should be thick.
2. There should be no deep periodontal pockets and severe bone loss at the interdental areas of the affected tooth.
3. A shallow vestibule also may jeopardize outcomes. The disadvantages of this method are possible bone loss and gingival recession at the donor site.⁶



Fig 1: Pre operative view

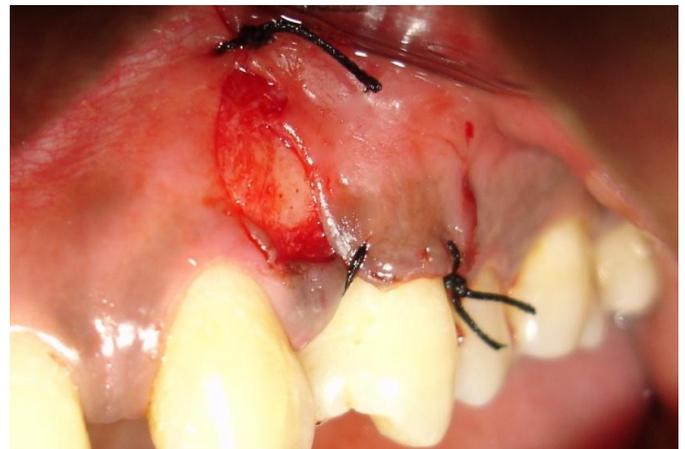


Fig 2: Flap repositioned and sutures placed

Case Report



Fig 3: Coe-pack placed



Fig 4: Postoperative 1 month

CONCLUSION

In the present study a laterally positioned flap with submarginal incision was used to cover Millers class-I recession defect in the left maxillary premolar area. This technique has been demonstrated to be a reliable and predictable treatment modality for obtaining root coverage in Miller class- I and class II recession defect for complete root coverage. However careful case selection and surgical management are critical if a successful outcome is to be achieved.

REFERENCES

1. Kassab MM, Cohen RE. The etiology and prevalence of gingival recession. *J Am Dent Assoc* 2003; 134 : 220-5.
2. Grupe H, Warren R. Repair of gingival defect by sliding flap operation. *Periodontol* 1956; 27:92-95.
3. Grupe H. Modified technique for the sliding flap operation. *Periodontol* 1966; 37:491-495.
4. McFall W Jr. The laterally repositioned flap. *Periodontics* 1967; 5:89-95.
5. Smukler H. Laterally positioned mucoperiosteal pedicle grafts in the treatment of denuded roots. *Periodontol* 1976; 47:590-595.
6. Anita V, et al. Double laterally rotated bilayer flap operation for treatment of gingival recession: A report of two cases. *J of Indian Soc of Periodontol* 2008; 12(2): 51-54.