

Treatment Of Gingival Recession With Connective Tissue Graft With A Coronally Advanced Flap: A Case Report

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ABSTRACT:

The normal position of the gingiva is affected by gingival recessions, which also expose the tooth root and are commonly accompanied with unsightly aesthetics and dentin hypersensitivity. The coronally advanced flap technique for root covering is a periodontal plastic surgery operation that is recommended for the treatment of gingival recessions. Within this case study, following a six-month follow-up, we present the clinical results of a root-covering procedure performed on lower incisors with gingival recession. A 30-year-old patient who had Miller's class I gingival recession on the vestibular surfaces of teeth 31 underwent a one-stage surgical procedure employing the coronally advanced approach in conjunction with a largely epithelialized connective tissue graft. After a six-month follow-up, this treatment achieved 100% root coverage.

INTRODUCTION:

In routine clinical practice, gingival recession occurs frequently [1]. The site adjacent to the cemento-enamel junction is where gingiva migrates, according to the American Academy of Periodontology [2]. Periodontal disease, forceful tooth brushing, inappropriate frenal attachment, inflammation, insufficient flossing, incorrect occlusal connections, and other factors are the most common etiological reasons. The gingival recessions were treated by soft tissue. This improves aesthetics, widens the surrounding gingiva, and lowers tooth sensitivity [3]. Because it is so reliable and achieves favourable outcomes, the Connective Tissue Graft is considered as the best technique to graft soft tissue. Despite the excellent cosmetic outcomes of this operation, a suitable donor site is important because root coverage, which has been found to range from 69% to 97% in most trials, is needed [4]. The original publication by Edel (1974) described one of the unique techniques for harvesting a free CTG, which involved making a three-sided "trapdoor" incision on the palate [5] and then performing a coronal advanced flap, which was done first [6].

CASE REPORT:

Mrs. Gomathi, a female patient, was 30 years old when she visited the outpatient. Her main concern was that her gums had been receding in the area around her lower front teeth for the past two months. The patient had a history of gums that bled when they were brushed. The patient had no systemic illnesses or relevant medical

history.

CLINICAL EXAMINATION:

In the face aspect of the mandibular anterior region, which was chosen for treatment, clinical examination revealed grade 1 mobility in teeth 31 and Miller class 1 gingival recession in respect to teeth 31. The patient maintained poor dental hygiene. Due to stress from occlusion, there was recession in the lower anterior region on soft tissue examination.

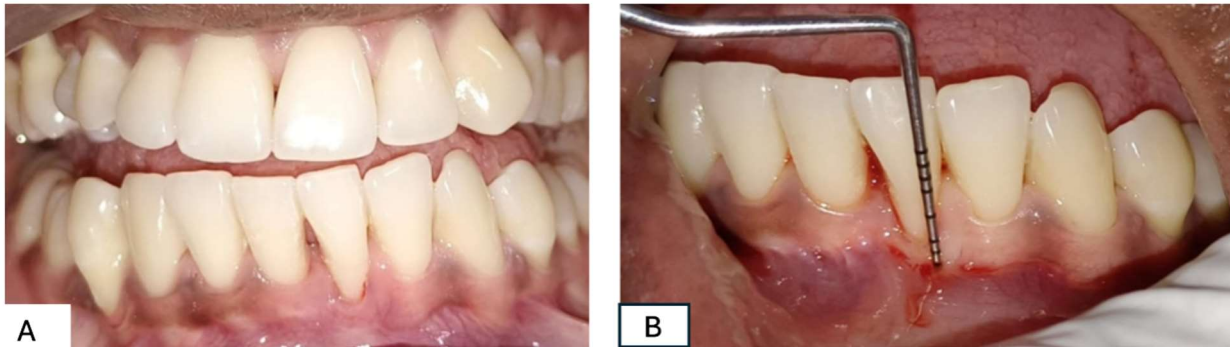


Figure 1 A) preoperative image reveals Miller's class 1 in relation to 31 B) reveals 4mm (about 0.16 in) of buccal recession in relation to 31.

TREATMENT:

Correcting the occlusal position and performing mucogingival surgery to completely cover the roots were the main objectives of the therapy. The patient made no mention of their parafunctional habits. The patient received oral hygiene advice before the mucogingival surgery and underwent prophylaxis. Periodontal site bleeding of less than 10% on probing and the plaque index, and less than 20% on the O'Leary index, suggested that mucogingival surgery had to be done.[7].

ARMAMENTARIUM:

COEPAK periodontal dressing, BP handle, BP blade no. 15, gauze sponges, and normal saline.

SURGICAL PROCEDURE:

Prior to the procedure, the perioral area was cleaned with a 10% betadine solution, Scaling and root planning were done to get rid of the plaque deposits.

To raise a split-thickness flap, two vertical cuts are made at least one papilla medially and distally from the area of recession.

To bio-modify the root surface and eliminate the smear layer, tetracycline was administered to condition the root surface [8].

A local anesthetic medication is used to numb the area of the hard palate where the connective tissue transplant must be extracted.

Using both horizontal and vertical incisions, the palate is used to harvest the connective tissue transplant.

To make graft removal easier, two vertical cuts are now performed at the ends of the horizontal incisor. A periosteal elevator is now used to detach the connective tissue transfer from the bone.

Primary closure involves suturing the palatal wound.

A sulcular incision is created with a 15-cm blade around the teeth next to the recession to create a tunnel pouch to receive the graft. The graft is immediately applied to the denuded root surface after being sutured at the midline level with a single 5-0 nylon suture. After that, a periodontal pack should be applied to the area.

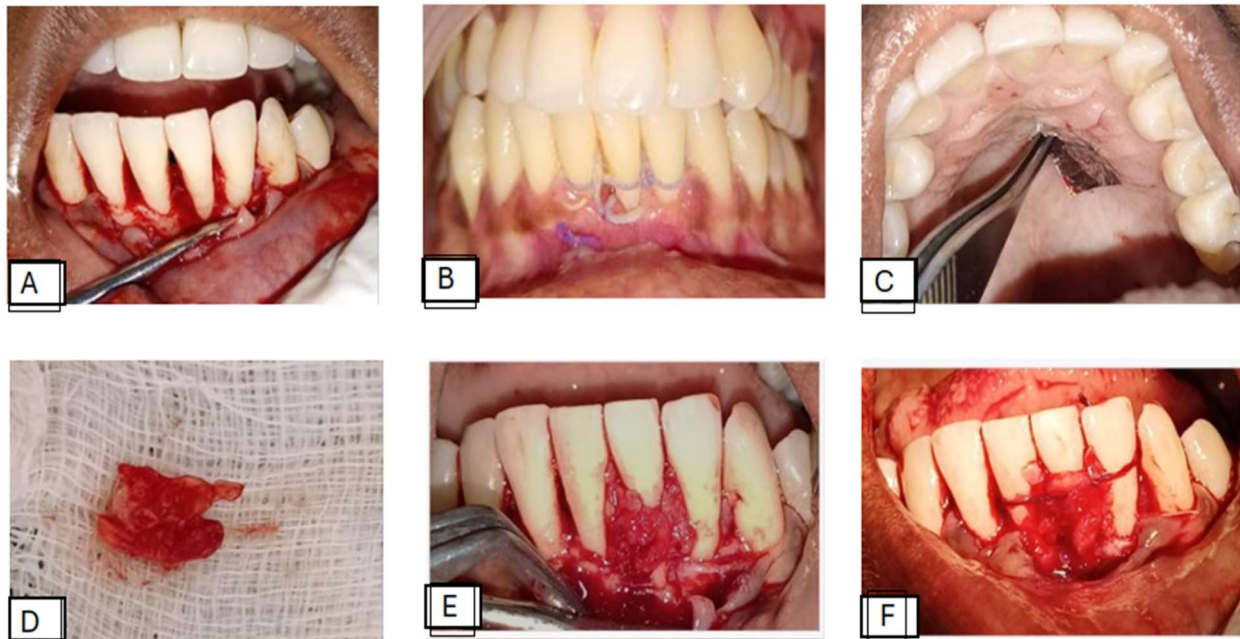


Figure 2 A) intrasulcular incision made and reflected with periosteal elevator. B) thread is placed around the cervical portion of the teeth involving 41,31,32. C) a thin membrane of aluminum foil is placed and marked over the site to be harvested. D) a harvested connective tissue graft. E) View of the recipient bed with periosteum

and mucosal flap left in place. F) Fixation of connective tissue graft onto the surface to be covered.

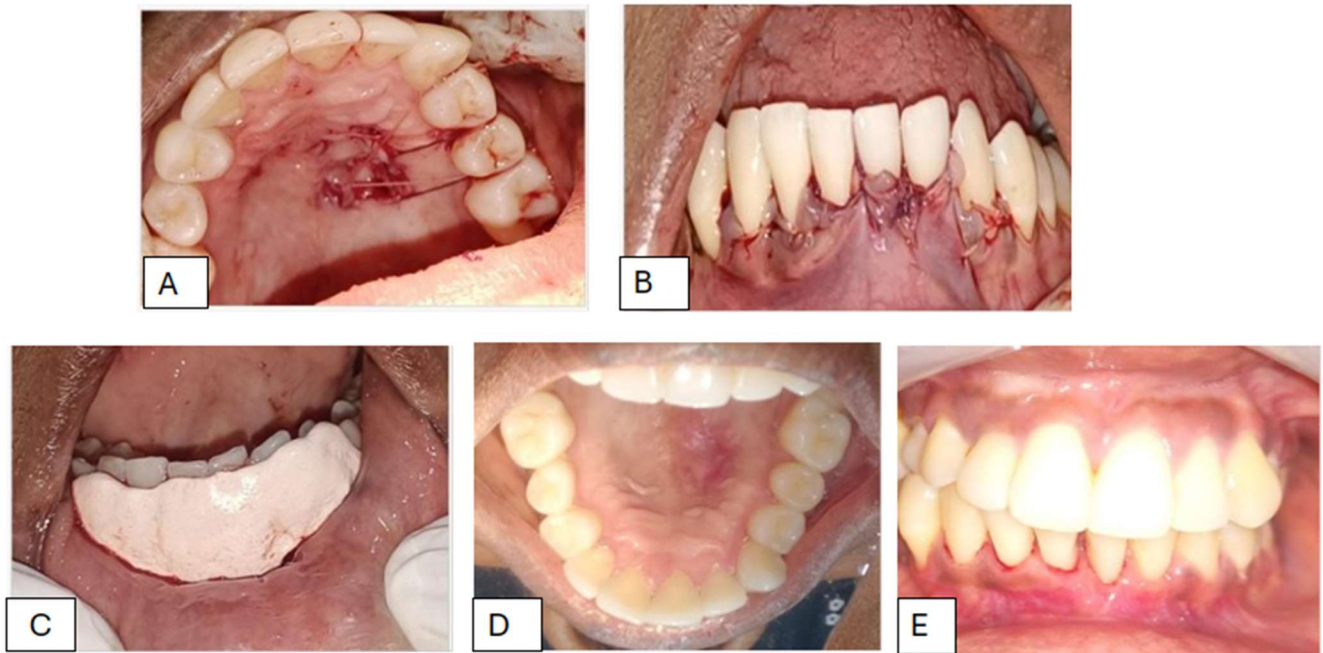


Figure 3 A) wound closure with horizontal compression sutures B) Suturing and complete coverage of CTG C) Suturing and complete coverage of CTG D) 6th month postoperative E) 6th month post operative (recipient site)

DISCUSSION:

Gingival recession causes poor aesthetics, pain, and sensitivity. Many techniques involve keratinized tissue-widening root-covering procedures [9]. Other indications for root covering procedures include root sensitivity and altering the architecture of marginal soft tissue to aid plaque control. Techniques for root covering are a crucial part of the treatment for gingival recession [10]. In this instance, the connective tissue graft (CTG) procedure was selected due to the next tooth's favorable periodontal state, which included enough keratinized gingiva and bone height. The benefit of this combined treatment is that thicker gingival margins that are more secure and have a probability of "creeping reattachment" are established after healing. Multiple gingival recessions were treated by Zabalegui et al. (1999) by making a tunnel underneath the recession-affected areas to accept the connective tissue transplant [11]. The study examined the long-term consequences of untreated facial gingival recession, patients who maintained adequate oral hygiene were likely to experience an increase in the depth of the recession during the duration of the long-term follow-up.

[12]. Agudio et al. (2016) compared the treated sites to homologous contralateral sites that had a thin gingival phenotype, either with recessions or without. At the conclusion of the follow-up period, the recession's severity had decreased in 83% of the 64 treated locations and had gotten worse in 48% of the 64 untreated sites. A study in the literature compared. For the treatment of gingival recession defects, coronally advanced flaps with porcine collagen matrix was superior to coronally advanced flaps with connective tissue grafts; at 12 months, recession was significantly reduced with both treatment methods [13].

CONCLUSION:

The use of connective tissue grafts combined with a coronally advanced flap is a predictable and reliable method for treating gingival recession. It provides both functional and esthetic benefits, with a high success rate in achieving root coverage.

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