



CASE REPORT

Double Papilla Flap for Root Coverage - A Case Report

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ABSTRACT

Gingival recession is defined as the displacement of the gingival margin apical to the cemento-enamel junction (CEJ). Root coverage is being achieved by a variety of techniques. Double-papilla flap technique was introduced by Cohen and Ross for the treatment of gingival recession. This case report describes three cases of class 2 gingival recession associated with dentinal hypersensitivity treated using double-papilla flap technique.

Key Words : Double-papilla flap, Gingival recession, Root coverage

Gingival recession is defined as the displacement of the gingival margin apical to the Cemento-enamel junction.⁽¹⁾ Root coverage procedures were described around fifty years age⁽²⁾. The intention of root coverage is complete restoration of all periodontal structures in the area of root recession.⁽³⁾ Root coverage is being achieved by a variety of techniques. There are four basic techniques for root coverage namely Pedicle grafts, Free mucosal graft, Subepithelial connective tissue graft and Membrane barrier guided tissue regeneration technique.⁽⁴⁾ Double papilla flap procedure was first described by Wainberg as the double lateral repositioned flap and was refined by Cohen and Ross as the double-papilla flap.⁽⁵⁾ The reported mean percentage of root coverage ranges between 34% and 82%.⁽⁶⁾ The advantage of double-papilla flap technique are reduced hypersensitivity, no need for second surgical site, good color matching, dual blood supply with high mean percentage of root

coverage. The disadvantages of this method are possible bone loss and gingival recession at the donor site.⁽⁷⁾ This article presents three case reports where patients were treated with Double papilla flap procedure to evaluate its effectiveness as a root coverage procedure.

Case 1

A 17 – year old male patient reported to department of Periodontology, Indira Gandhi institute of dental sciences, for treatment of gingival recession for esthetics and tooth sensitivity. The patient's medical and dental histories were not contributory.

On examination generalized gingival inflammation with class 1 recession in relation to 33 was present (Fig.1) and patient noticed increasing recession for the past 3 months. Pain

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provocation test appears positive when blasting air onto root surface of 33. Probing pocket depth and clinical attachment levels in relation to 33 was 2mm and 8mm respectively. The width of attached gingiva in relation to 33 was 1.5 mm. The recession measured 6mm in height and 2mm in width with no loss of interdental soft tissue. No mobility was present. Radiographic examination revealed no interproximal bone loss. The patient maintained good oral hygiene. Oral prophylaxis was completed and root planning done in relation to 33.

Patient was reviewed after a week and clinical signs of gingival inflammation had subsided. Root conditioning was done using topical application of 100 mg/ml of doxycycline hydrochloride. Double papilla flap procedure for root coverage was planned in relation to 33.

A v-shaped incision is made on the root surface of 33(Fig.2) and the tissue is removed (Fig.3). 3 mm away from the tip of the papilla, a two horizontal

incision were made on the mesial and distal interdental papilla. Two vertical incisions were made from the distal end of the horizontal incisions beyond mucogingival junction. A full thickness double pedicle flap was raised on the coronal aspect (Fig.4). As progressed apically a partial thickness flap was raised for easy flap migration. After ensuring tensionless flap reflection the mesial and distal papilla were approximated and sutured over the recession site. The sling sutures were made to stabilize the flap at the desired position. Approximation of the mesial and distal papilla was achieved with two interrupted sutures.(Fig.5) Periodontal dressing was given. (Fig.6)

Post operative care

Patients were instructed not to disturb the surgical site and periodontal dressing. Patients were advised to take amoxicillin 500mg and combiflam thrice daily for 3 days. Patients were instructed not to brush or floss their treated area and to rinse



Fig 1: Pre operative



Fig 2: V-shaped incision on the root surface of 33



Fig 3: V-shaped tissue is removed



Fig 4: Two horizontal and vertical incision was made and Full-thickness pedicle flap was reflected

their mouth using 0.12% chlorhexidine twice daily for 2 weeks. Two weeks post operatively periodontal dressing and sutures were removed. Healing was satisfactory. Complete root coverage was obtained. Recall after 3 months showed stable result. (Fig. 7)

Case 2

A 29 years male patient has reported to the Department of Periodontology, for the treatment of gingival recession in buccal side of 13. On clinical examination millers class 2 gingival recession was present in relation to 13. The

dimension of gingival recession were width 4mm and depth 7mm. (Fig.8) Similar surgical procedure was done in relation to 13. At 3 months post operative review gingival recession was reduced to 2mm in depth.(Fig.9)

Case 3

A 26 years male patient has reported to the Department of Periodontology, for the treatment of gingival recession in buccal side of 41. On clinical examination millers class 3 gingival recession was present in relation to 41. The dimension of gingival recession were width 4mm



Fig 5: Simple interrupted suture followed by Sling suture was placed to stabilize the flap



Fig 6: Periodontal dressing



Fig 7: 3 months Post operative



Fig 8: Pre operative



Fig 9: Post operative



Fig 10: Pre operative



Fig 11: Post operative

and depth 6mm. (Fig.10) Similar surgical procedure was done in relation to 41. At 3 months post operative review gingival recession was reduced to 2mm in width and 3mm in depth. (Fig.11)

Discussion

Root coverage is a successful and predictable procedure in Periodontology, employing a variety of techniques such as Rotational flaps, Advanced flaps, Subepithelial connective tissue graft and Guided tissue regeneration techniques⁽⁸⁾. Each technique has their advantages and disadvantages. Double papilla pedicle flap has been demonstrated to be a reliable technique for root coverage⁽⁸⁾. The advantages are good color match, good blood supply, no need for second surgical site, need for donor tissue is small because interdental papilla adjacent to gingival recession is displaced and little damage to alveolar bone because interdental alveolar bone is thick.⁽⁷⁾ 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 site.⁽⁷⁾

The criteria for successful root coverage are as follows: The gingival margin is on CEJ in Class I, Class II gingival recession, the depth of gingival sulcus is within 2 mm, there is no bleeding on probing, there is no hypersensitivity, and color match with adjacent tissue is esthetically

harmonious.^(9,10)

In this case series three patients presenting with class 2 and class 3 gingival recession with a chief complaint of esthetics and root hypersensitivity were treated with Double papilla flap procedure. Double papilla flap technique decision was made because of the presence of wide interdental papillae adjacent to the Gingival recession, presence of adequate thickness of gingiva on the recipient site. All cases showed no post-operative discomfort as there was no need of a donor site. Significant clinical root coverage was obtained without causing recession to the adjacent teeth.

Results of complete root coverage of treated teeth was in accordance with the study done by Manisundar et al.⁽¹¹⁾ He concluded that double papilla pedicle graft has an advantage such as preservation of exposed bone and preservation of attached gingival. Benjamin Tanet al⁽¹²⁾ concluded that the partial thickness double pedicle graft with connective tissue can be a useful technique in treating gingival recession.

Conclusion

The technique of double papilla flap is reliable for the treatment of gingival recession. The advantage of using this technique for root coverage was no post operative discomfort, good blood supply, good color matching, stable result and resolution of dentinal hypersensitivity.

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