CASE REPORT

Zucchelli’s Multiple Gingival Recession Coverage technique for resolution of hypersensitivity and esthetic gingival rehabilitation with six months follow-up

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Abstract

Periodontists generally come across gingival recession in routine practise which is commonly associated with dentinal hypersensitivity. The treatment option selected for these cases should address a balance between biological, functional and esthetic factors as well as chief complaint of the patient. The management of multiple tooth recessions commonly Utilizes the coronally advanced flap technique for root coverage. The present case report describes a case of multiple Class I Miller’s gingival recession treated successfully with Zucchelli’s modification of conventional coronally advanced flap.

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1 | INTRODUCTION

Gingival recession is defined as the location of the marginal tissue, apical to the cementoenamel junction (CEJ) with exposure of the root surface. Several etiological/predisposing factors associated with recession include periodontal disease, anatomic factors including tooth malpo-
sitioning, alveolar bone dehiscence, thin marginal bone and high frenal attachments, mechanical force like overzealous horizontal tooth brushing, trauma from occlusion, lip piercings and iatrogenic factors related to reconstructive, conservative periodontologic, orthodontic or Prosthetic treatment. (2) Numerous surgical techniques have been proposed for the correction of gingival recession. They can be broadly classified into: pedicle grafts, free gingival grafts, connective tissue grafts and membrane barrier-guided tissue regeneration technique. Pedicle graft utilising the coronally advanced flap is the most commonly applied technique to surgically correct gingival recession. The present case describes Zucchelli’s technique of coronally advanced flap for root coverage in multiple recession defects. (3)

FIGURE 1:

2 | CASE REPORT

A 25 year old female reported to the department of Periodontology, Government Dental College & Hospital, Patiala. The patient complained of tooth sensitivity in the upper front region of teeth for the past 6 months. Sensitivity increases on tooth

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brushing & intake of cold food. On clinical examination Millers class I recession was seen on 11, 12,13,14,21,22,23,24. The reason for the recession was attributed to faulty vigorous horizontal tooth brushing.

Scaling and root planing were done and OHI was given. Proper brushing technique was advised and adequate time was given to alter the technique. Root coverage by Zucchelli’s coronally advanced flap was planned after one month. Informed consent was obtained from the patient.

3 | SURGICAL PROCEDURE

Zucchelli’s technique: New modification of coronally advanced flap for multiple teeth recession coverage.(3) Clinical features of multiple coronal advanced flaps are the absence of vertical releasing incisions, a variable thickness, combining areas of split and full thickness, and the coronal repositioning of the flap. Another characteristic feature is the oblique submarginal incisions in the interdental area. Incisions are given obliquely connecting the CEJ of one tooth to the gingival margin of the adjacent tooth. (6)

Disinfection of the surgical site was done with 2% betadine. The procedure was carried out under local anesthesia (Lignocaine HCl with 2 % epinephrine 1: 200,000). A sterile indelible pencil was used to mark the incision outline. (figure 1) Horizontal incisions were given connecting the CEJ of one tooth to the gingival margin of the adjacent tooth. (figure 2) A split-thickness flap was reflected till the root exposure and a full-thickness flap was raised further apically. (figure 3) Beyond mucogingival junction again, adequate coronal displacement was ensured by reflecting a split-thickness flap. Complete de-epithelization of anatomic interdental papilla was attained to expose the underlying connective tissue. This also eliminated the epithelium that might interfere with healing. The root surface was examined for remnant calculus through flap reflection. Thorough scaling and root planing were done. Surgical papillae were rotated towards the ends of the flap while advancing the flap coronally. They were also displaced on the prepared connective tissue beds of the anatomical papillae. Sling suture was used to secure the flap in place and ensure precise adaptation. (figure 4) The surgical site was then covered with a periodontal dressing. (Coe Pac)

4 | POST-OPERATIVE CARE

The patient was instructed to leave the surgical site undisturbed and not remove the pack till the sutures were removed. Other post-operative instructions were given. The patient was advised to take antibiotics (Amoxiciclav 625mg bd) for 3 days post-
5 | DISCUSSION

The gingival recession-related exposure of root surfaces is the most important factor in the etiology of dentin hypersensitivity. The treatment attempts to cover the exposed root surfaces. Numerous methods have come up over the past decades. The ‘coronally repositioned flap’ introduced by Bruiniest in 1970 and modified by Allen & Miller in 1989 is the most commonly employed technique. Zucchelli & Sanctis further modified this technique in 2000. (3) The case presented here demonstrates Zucchelli’s modification of the coronally advanced flap. This new technique has a few clinical and biological advantages over the conventional technique. It is an envelope type flap without a vertical releasing incision. This ensures that the blood supply is not compromised and no unaesthetic scars are formed along the incision line. This is also a split-full-split-thickness flap. The surgical interdental papillae also receive good anchorage and sufficient blood supply. In the present study using this flap technique, adequate root coverage was achieved and the results were stable for 6 months. Scar formation was not observed and the color match of the tissue was excellent. The chief complaint of hypersensitivity was completely resolved after the surgery.

6 | CONCLUSION

This new approach to the coronally advanced technique is very effective for the treatment of multiple class I gingival recession.

REFERENCES