

TREATMENT OF GINGIVAL RECESSION ASSOCIATED WITH NON-CARIOUS CERVICAL LESION WITH A RESIN IONOMER RESTORATION AND CONNECTIVE TISSUE GRAFT: A CASE REPORT

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ABSTRACT

Background: One of the main objectives of periodontal reconstructive surgery is the coverage of exposed roots that occur due to gingival recession. On some occasions, where a caries, non carious cervical lesion (NCCL), root resorption, or amalgam restoration exists on the exposed root surface, the treatment planning becomes more complex. This case report describes the use of a free connective tissue graft (FCTG) on a resin ionomer restored root surface to treat gingival recession.

Methods: NCCLs present on upper central incisors were filled using Resin modified glass ionomer cement followed by FCTG using envelope technique.

Conclusion: This single case report serves as a good example to show that FCTG can be successfully performed to treat gingival recession associated with a resin modified glass ionomer-restored root surface.

INTRODUCTION

The exposure of root surfaces because of gingival recession may result in tactile and thermal sensitivity, esthetic complaints,¹ and root surface carious lesions². In some situations, the exposed root surface can exhibit irregularities and grooves, caries, resorption, or noncarious cervical lesions (NCCLs).³ These anatomical root sur-



Fig 1 Pre-operative



Fig 2 Cervical abrasions restored with resin-modified GIC

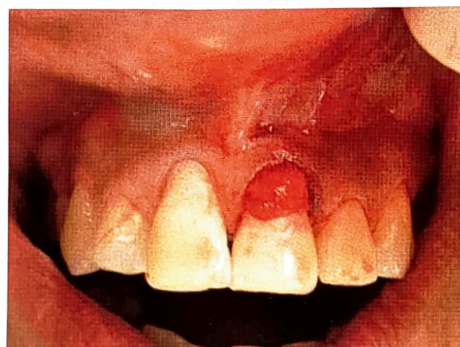


Fig 3 Connective tissue graft in place



Fig 4 Sutures given

face presentations can impair the mechanical planing that is done prior to the surgical procedure for root coverage; however, root planing is one of the fundamental steps in the root coverage procedure to smooth irregularities and grooves and to reduce the convexity of the root.⁴

NCCLs, classically referred to as abrasion, erosion, or abfraction, frequently can extend apically underneath the free gingival margin. Based on its etiology and severity, the most common therapies for an NCCL remain occlusal adjustment, toothbrushing instructions, and/or restorative procedures.⁵ Among the alternatives to NCCL restorations,

esthetic materials, such as resin ionomer and composite resin, have become the most commonly used materials.^{6,7} These conventional restorative techniques result in protection against further loss of tooth structure and sensitivity; however, they may not meet the esthetic demands of the patients (relative to the length of the tooth or teeth involved).

In this context, an ideal therapeutic procedure for the treatment of gingival recession associated with an NCCL has presented a challenge to clinicians. Since 1985, the treatment of gingival recession has been influenced by the development of the subepithelial con-



Fig 5 Connective tissue graft in place on the other side with sutures in place

nective tissue graft (SCTG) technique, which has led to predictable and reproducible results.^{8,9}

This article presents a case in which a combined restorative and periodontal surgical approach has been used to treat multiple gingival recession associated with noncarious cervical lesions (NCCLs).

CASE REPORT

A 25-year-old female was referred to the Department of Periodontics, Maulana Azad Institute of Dental Sciences, New Delhi for evaluation of gingival recession associated with upper maxillary central incisors with cervical abrasions. She was in good physical health with no history of systemic disease.

Clinical evaluation revealed recession of 3 mm (Miller's class I) on the midlabial of the tooth with non carious cervical lesions (NCCLs) on tooth #8 and #9. The patient desired a better gingival esthetic in which the gingival marginal symmetry would be maintained. The gingival recession was planned to be treated with FCTG using the Envelope technique preceded by a root surface restoration using a resin modified glass ionomer (RMGI#) in the same appointment. Informed consent was obtained from the patient before the surgery according to the ethical guidelines of the Helsinki Declaration of 1975.

Dentin and enamel were etched using 35% phosphoric acid gel[§] for 15 seconds, rinsed for 10 seconds, and the excess moisture blotted. NCCLs were filled with RMGI after primer application and lightcured for 60 seconds. Each restoration was finished grossly with a tapered, multifluted, carbide finishing bur under abundant water irrigation. Final contouring and finishing were



Fig 6 Post operative (After 9 months)

accomplished with progressively finer grit aluminium oxide disks.

After local anaesthesia, the recipient site was prepared by eliminating the sulcular epithelium by an internal bevel incision. Then an envelope was prepared apically and laterally by split incisions with a depth of 3-5 mm in all directions. FCTG was harvested from the inner surface of a mucoperiosteal flap raised at the palatal premolar/molar teeth region by "trap door" technique. It was inserted into the prepared envelope and sutured with 4-0 silk such that it completely covered the RMGI restoration and the root surface. Pressure was applied for 5 minutes to closely adapt the graft to the root surface and covering soft tissue.

The patient was advised not to brush the treated site for 21 days. The patient was prescribed 0.12% chlorhexidine mouthwash two times a day for 3 weeks, an analgesic (paracetamol) for 48 hours, and an antibiotic (amoxicillin) for 7 days. The sutures were removed 15 days after surgery. The case was followed for 9 months.

DISCUSSION

Localized gingival recession that occurs at the smile line may be a great esthetic concern for the patient. There are many periodontal esthetic procedures used to treat this situation. The success of root coverage varies depending on the width and depth of recession, biotype of gingival tissue, type of surgical technique used, and smoking status. On some occasions, like in our case, the surgical procedure itself may not meet the esthetic demands of the patient but may create restorative opportunities for a final outcome.

When a root exposure is associated with an NCCL, the cosmetic component

of the surgical or restorative procedure may not be successful, especially in apically extensive lesions. Therefore, to solve problems of sensitivity and esthetics simultaneously, a combined restorative-surgical therapy was proposed for the treatment of gingival recession associated with an NCCL.

Resin ionomer materials have many properties that allow them to be used successfully in the subgingival region. Scherer and Dragoo^{10,11} used modified resin ionomer restorations in subgingival locations. Dragoo¹⁰ demonstrated histologic evidence that both epithelium and connective tissue can adhere to the resin ionomer when placed in a subgingival environment. In case reports by White¹² and Breault et al.,¹³ resin ionomers were placed subgingivally to repair areas of root resorption. In other case reports, resin ionomers were used to treat furcation lesions by sealing the defect.^{14,15}

Resin ionomers also have the properties of insolubility in oral fluids, low cure shrinkage, low coefficient of thermal expansion, lack of exotherm during setting, and radiopacity.^{10,11, 13} Their use in the subgingival area to treat furcation lesions and to restore resorption cavities has already been demonstrated.¹²⁻¹⁴ In addition, Harris¹⁶ has shown the successful use of subepithelial connective tissue graft over a glass ionomer restored root surface in the treatment of a cracked tooth.

In the present case, the NCCLs were restored with RMGI and then covered with free connective tissue graft. Complete root coverage was obtained in both the central incisors.

CONCLUSION

This single case report serves as a good example to show that FCTG can be successfully performed to treat gingival recession associated with a resin modified glass ionomer-restored root surface.

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