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Negotiating Miller's Class II recession via coronally advanced flap

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Abstract

Introduction: The exposed root surface in the dentition's aesthetic zone is proposed to be treated using several surgical approaches (pedicle and free soft-tissue grafting). An appropriate method for root coverage in the management of gingival recessions of both single and multiple teeth is the use of a coronally advanced flap.

Aim: This case report demonstrates the coronally advanced flap approach for root covering in the upper jaw's aesthetic zone.

Materials and Methods: Established Miller's class II gingival recessions that affect teeth 22, 23, 24, and 25. PerioCol membrane was used in conjunction with a coronally advanced flap method to improve the aesthetic covering.

Results: Positive root coverage and an increase in clinical attachment level are the results.

Keywords: Gingival recession, coronally advanced flap, clinical attachment gain, aesthetic zone

Introduction

The apical migration or displacement of the marginal gingiva below CEJ is known as gingival recession. It means the disappearance of alveolar bone and periodontal connective tissue fibres, which may worsen the aesthetic appearance and cause tooth sensitivity. In order to make aesthetic improvements, lessen root sensitivity, restore or prevent root caries, and stop the progression of gingival recession, surgical correction of gingival recession abnormalities may be necessary. Rotational and advanced gingival flaps free gingival or connective tissue grafts, guided tissue regeneration and combinations of these procedures are frequently used to treat gingival recession defects. Before even trying the root covering operations, a number of considerations need to be taken into account when choosing a surgical approach where multiple gingival recessions are present. It is important to balance the requirement to meet patients' aesthetic needs with efforts to limit the number of procedures and intraoral surgical sites. Multiple recession defects should ideally be addressed simultaneously with a single treatment where they are present, and soft tissue transplant removal from the mouth should be avoided if at all possible to reduce patient suffering. When there are several recession flaws, the scarcity of donor tissue presents a challenge.

To satisfy patient expectations in terms of aesthetics, it is necessary to achieve total root covering of the defects, the ideal graft thickness, and natural colour blending of the operative site. The development and assessment of alternative surgical techniques for the treatment of multiple recession-type defects in patients with aesthetic expectations appears warranted because issues related to these concerns have been seen utilising currently used surgical approaches.

Case Report

The chief complaint of a 42-year-old male patient who visited the department of periodontology at Inderprastha Dental College and Hospital was sensitivity to cold water in the area of the upper left back tooth. The patient was otherwise healthy throughout. There were no significant medical or dental histories disclosed. Clinical examination revealed that the

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patient's oral hygiene was fair and isolated. Regarding 22, 23, 24, and 25, Miller's class II type recession fault was discovered. Following the receipt of informed permission, the patient was chosen for the coronally advanced flap technique with periocol membrane.

Scaling and root planning carried out to prepare the patient for surgery, and oral hygiene advice was reiterated over the course of multiple visits (Fig. 1).

Table 1: Pre surgical parameters at the baseline

Tooth no.	Probing Depth	Recession depth	CAL	Keratinised gingiva
22	0.5 mm	3 mm	3.05 mm	4 mm
23	1 mm	4 mm	5 mm	3 mm
24	0.5 mm	3 mm	3.05 mm	4 mm
25	1 mm	3 mm	4 mm	3 mm

Surgery: 2% lignocaine and 1% adrenaline were used to anaesthetize the surgical site. The UNC 15 Periodontal probe was used to measure the height and width of the recession. At the surgical site, a coronally advanced (positioned) flap method was used. This surgical procedure was identified by two horizontal incisions at the base of the interdental papilla next to the recession and two oblique releasing incisions at the mesial and distal aspects (Fig. 2). An incision around the afflicted tooth's sulcus was made. To enable tension-free coronal repositioning of the flap, a full thickness flap was raised (Fig. 3), and then a horizontal releasing incision was created in the periosteum at the base of the flap (Fig. 4). Following flap elevation, curettes were used to scale and plane the exposed root surfaces (Fig. 5). Interdental papillae that were close by were de-epithelialized.

De-epithelialization was followed by placement of a collagen type I membrane (PERIOCOL™) (Fig. 6) across the exposed root surfaces, coronal advancement of the flap, and suturing with 4-0 black silk sutures (Fig. 7). The surgical site was covered with the periodontal dressing to keep it safe after-surgery care Amoxicillin-500 mg, twice daily for five days; paracetamol-500 mg, six hours a day for three days; and 0.2% chlorhexidine gluconate mouthwash (0.2% Clohex™) were given for the patients. Following standard post-operative periodontal oral hygiene was advised to patients. After ten days, the suture was removed.

Results: Follow up 3 months result (Fig.8) showed complete root coverage and gain of CAL was achieved. The patient was satisfied with the esthetic result and his chief complain of sensitivity in the cervical zone greatly reduced.



Fig 2: Incisions placed at recipient site



Fig 3: Full thickness flap raised 3-4mm beyond the recession defect



Fig 4: Coronally advancement / pull of the flap being checked



Fig 5: Root planing done to remove diseased cementum



Fig 1: Pre-operative view wrt 22, 23, 24, 25



Fig 6: PerioCol membrane



Fig 7: Sutures placed



Fig 8: POST OP 3 Months

Discussion

More often than not, many teeth are impacted by gingival recessions. Adjacent recessions should be treated at the same time to reduce the number of procedures and improve the surgical outcome. The coronally advanced flap surgery has been shown to be a predictable treatment option for achieving root coverage in isolated kind of gingival recessions by utilising the soft tissues close to the defects. The present cases' coronally advanced flap surgery has the following benefits. Vertical releasing incisions are avoided in the envelope type of flap in order to preserve the flap's blood supply and stabilise the operative margin.

As opposed to the autogenous subepithelial connective tissue graft, which necessitates a second surgical site to harvest the soft tissue graft in a more invasive, time-consuming, and precise manner, the complete root coverage in the present case was achieved using the collagen membrane with CAF. Finally, it can be said that the approach adopted in the present case study can treat adjacent recessions simultaneously regardless of how many there are, resulting in root covering and keratinized mucosa growth. To validate the findings, additional controlled studies that include parameters to measure the clinical changes are required.

Conclusion

It's important to study how to practise proper dental hygiene and how to use the right tools and cleaning methods. Patients experiencing recession should always be informed of the possibility of surgical correction of such areas. We must address the aetiology of the issue before beginning surgical or non-surgical modalities of therapy for gingival recession. It goes without saying that if the root of the issue is not addressed, therapeutic measures will ultimately fail. After identifying and addressing the condition's aetiology, we can move on to developing a treatment strategy to stop or reverse gingival recession. The intensity of the patient's symptoms, his or her goals, and the body of current knowledge will all be taken into account while developing the treatment plan

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Conflict of Interest: Nil

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