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Bridging The Gingival Recession to Esthetic - A Case Report

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Abstract

Gingival recession is exposure of root surface by shifting of gingival margin apical to cemento-enamel junction (CEJ). Along with functionally efficient dentition, esthetic demand also increasing among people. Numerous surgical techniques have been proposed by various authors. Bridge flap is a single step surgery to cover denuded teeth in presence of inadequate vestibular depth and aberrant frenum. This article reports the surgical management of a patient with gingival recession and shallow vestibular depth using bridge flap for coverage of denuded root surfaces.

Keywords: Bridge Flap, Multiple Gingival Recession, Root coverage, Vestibular Deepening

Introduction

Gingival recession is exposure of root surface by shifting of gingival margin apical to cemento-enamel junction (CEJ).[1] Gingival recession in anterior teeth is a common finding and that may compromise esthetic as well as it may cause dentinal hypersensitivity and formation of root caries.[2] There are multiple etiologies of gingival recession including periodontitis, mechanical trauma during tooth brushing, trauma from occlusion, aberrant frenum, inadequate attached gingiva, misaligned teeth or thin bony plate etc.[3,4] The initial step to manage gingival recession should be emphasized on identifying the occlusal etiology that may act as a contributing factor for the progression of recession. There are various surgical procedures that deal with gingival recession. Various clinicians proposed various surgical procedures like the coronally advanced flap, lateral pedicle flap, free gingival graft and connective tissue graft techniques for recession coverage. These surgical solutions, although carry their own merits, pose certain difficulties. In many

cases, where inadequate attached gingiva present, a variety of surgical procedures may be required for adequate root coverage.[5] It has been shown that to maintain periodontal health, there should be 2-3 mm of attached gingiva.[6] In many cases wherein the width of attached gingiva is inadequate, a variety of techniques like vestibuloplasty, free gingival grafting are performed prior to root coverage procedures to augment the width of attached gingiva, which either involve a second appointment or a secondary surgical site.[7] However bridge flap technique can be done in a single step to treat multiple recession with inadequate vestibular depth. Marggraf proposed bridge flap technique in 1985.[8] The advantage of this technique is, it does not require second surgical site to increase vestibular depth or to remove aberrant frenal pull. This article presents a case report of bridge flap in lower anterior teeth region.

Case Report

A female patient aged 23 years reported in the Department of Periodontology, Career Post Graduate Institute of Dental Sciences, Lucknow with chief complaint of receding gum and sensitivity in lower front teeth region. Intraoral examination showed Millers class II gingival recession of 3.5mm in relation to 41 (Figure 1). Clinical examination revealed an inadequate zone of attached gingiva (tension test-positive). Probing Pocket depth in facial to 41 was 1mm and the width of attached gingiva was <1mm. Bridge flap technique was planned to cover the exposed root of 41. The surgical technique was explained to the patient and informed consent was obtained. Scaling and root planning (SRP) was performed. The patient was then recalled after two weeks for surgery.

Surgical Technique

Following local anaesthesia, an arc shaped incision was placed in the vestibule apical to 41 extending up to one adjacent tooth on both side (Figure 2). An incision was placed into periosteum at its base and the bone was exposed so that scar formation could occur. A split thickness flap was then elevated in apicocoronal direction by making sulcular incision, connecting it with the first incision so that the whole flap could be elevated and repositioned coronally to cover the denuded root surface of 41 (Figure 3). No vertical incision was given. Thereafter root conditioning was done with 15% ethylenediaminetetraacetic acid (EDTA). The repositioned flap was pressed for 3 minutes and independent sling suture and suspended interrupted suture which was supported to facial surface of crown of tooth 41 with the help of light cure material (Figure 4). Barricaid was placed covering the surgical area.

Post Care

Post operative instructions were given to the patient. Amoxicillin 500mg thrice daily for 5 days and painkiller for 3 days were prescribed. Patient was instructed to rinse with 0.2% chlorhexidine solution thrice daily for 2 weeks. Patient was recalled after 10 days for suture removal. There were no postoperative complications and healing was satisfactory with significant root coverage and significant gain in attached gingiva. Complete coverage was obtained in 1 month postoperative follow up (Figure 5).

Discussion

Along with functionally efficient dentition, esthetic demand also increasing among people. Gingival recession in anterior teeth compromise esthetic and may cause hypersensitivity and root caries. The intention of root coverage was to completely restore healthy periodontal structure. Numerous surgical techniques have been proposed. In case of inadequate width of attached gingiva, coronal advanced flap, semilunar flap, lateral pedicle flap can't be performed. In such

circumstances, gingival augmentation may be required which needs second surgical site or multiple surgical appointments prior to root coverage procedure. The original Edlan-Mejchar technique[9] was developed to deepen the vestibule and not to cover gingival recession and it resulted in alveolar bone exposure. Marggraf's bridge flap technique is a single step solution which is a combination of Edlan Mejchar technique and coronally repositioned flap to cover denuded teeth in presence of inadequate vestibular depth and aberrant frenum. In this modification, alveolar bone exposure is avoided, that helps in uncomplicated and rapid healing. Again this technique makes it possible to advance flap coronally for root coverage in shallow vestibule where attached gingiva is less than 3mm.[10] The bridge flap technique reduces the incidence of redeveloping recession due to simultaneous extension of the vestibule, as the mucosal flap cannot be influenced by muscular tension from an apical direction.[10] The other advantage of bridge flap technique is, it does not require second surgical site to increase vestibular depth or to remove aberrant frenal pull. Also, this technique can be used to cover multiple recessions. Bridge flap which covers a denuded root surface is supplied by plasmatic circulation from capillaries in the adjacent portion of the gingiva, allowing it to survive.[11]

In the present case report, the cases were selected mainly on the patient's chief complaint of aesthetics and hypersensitivity and etiology. There was significant gain in clinical attachment level and significant root coverage. Complete root coverage obtained as defined by Miller et al (1985).[5] Result of this case in obtaining complete root coverage is consistent with studies done by Marggraf et al[8], Gupta et al[12], and Musalaiah et al.[13]

Conclusion

Management of gingival recessions is one of the most important components of periodontal plastic surgery. Careful preoperative diagnosis and appropriate case selection are needed for successful result. Bridge flap is a single step surgery in treating gingival recession in the presence on shallow vestibule.

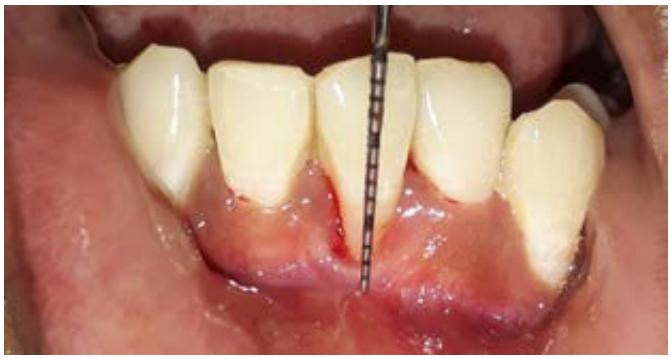

Figure 1: Pre operative.

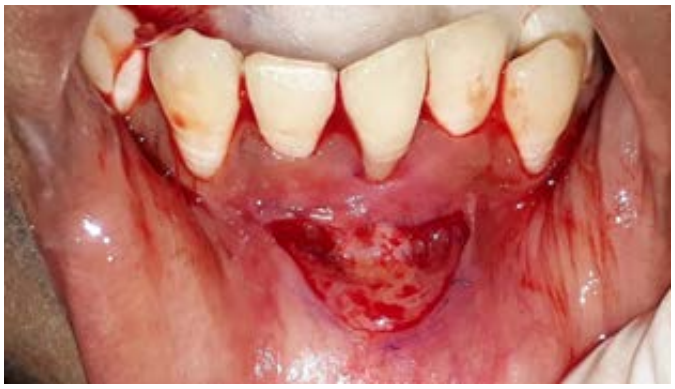

Figure 2: Arc shaped incision was placed in the vestibule.

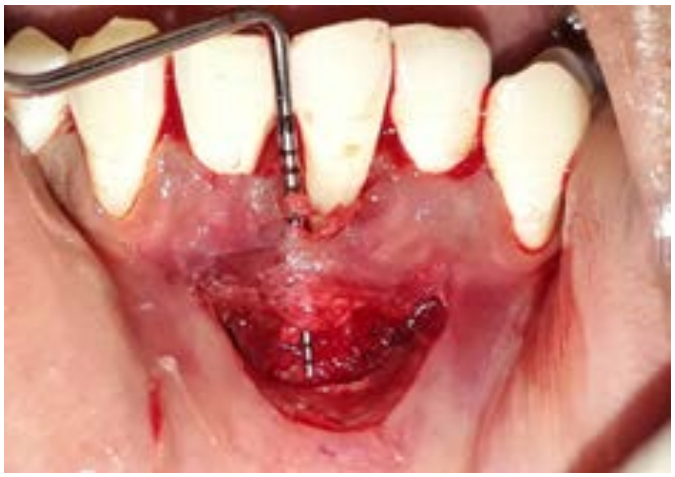

Figure 3: Bridge flap elevated.

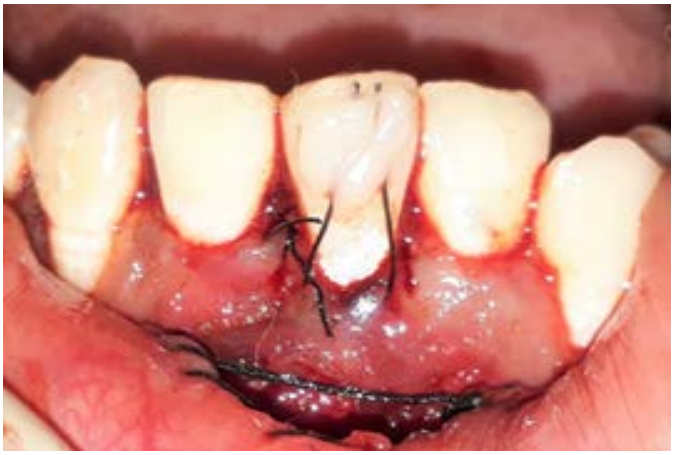

Figure 4: Bridge flap coronally positioned and sutured.

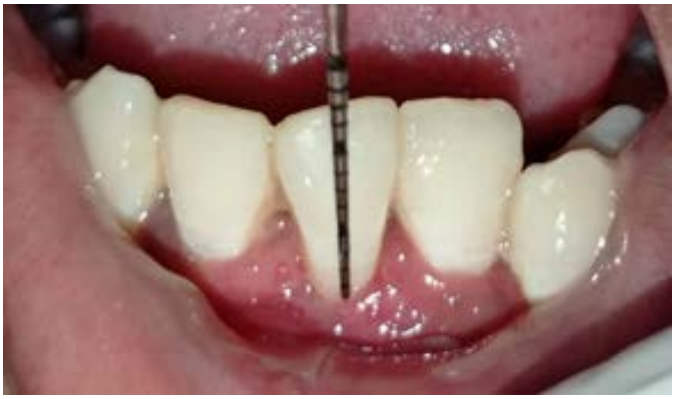

Figure 5: One month Post operative showing complete root coverage.

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