FREE GINGIVAL AUTOGRAFT - A CASE REPORT

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Abstract
Gingival recession is defined as Displacement of soft tissue margin apical to the cemento-enamel junction. The esthetic demand together with reduction of root sensitivity and management of root caries or cervical abrasion are the main indication for root coverage. The root coverage procedure is quite predictable and also produces patient satisfaction. This paper reports a case of 45yr old female with a root coverage procedure has been discussed below.

Keywords: Free Autogingival Graft, Root Coverage, Gingival Recession, Mucogingival Therapy

1. Introduction:

Significant factor associated with the success of dental therapy is physiologic well being of the patient. Gingival recession according to the glossary of Periodontic terms is defined as Displacement of the soft tissue margin apical to the cemento-enamel junction. Major causes for this condition includes plaque induced periodontal disease, mechanical force such as faulty tooth brushing, iatrogenic factors like orthodontic movements, faulty restorations and anatomic factors such as malposition, frenum pull, etc[1].

According to Miller, root coverage procedure is quite predictable and produces patient satisfaction; it should be therapist's obligation to make patients aware of this treatment modality. When recession is deep and marginal tissue health cannot be maintained, the need for treatment is obvious and various types of soft tissue grafts may be performed. Autogenous gingival grafting/ epithelized free gingival grafting is a well established pure mucogingival procedure for increasing the width of attached gingiva.The procedure has proven reliable in increasing attached gingiva and stopping the progressive recession[2].

2. Case History:

A 45 years old female patient reported with a chief complaint of sensitivity of a tooth in lower anterior region. Patient's medical and dental history was not significant. Intraoral examination revealed no probing depth of more than 3mm in any location. There was minimal bleeding on probing. The patient's oral hygiene status was judged to be good. There was no other periodontal concern other than Miller's class II recession of tooth 21. Radiographic examination showed no bone loss. Pre-surgical therapy included scaling, root planing and plaque control instruction after 3 weeks of re-evaluation the lower incisor showed apico-coronary 3mm of recession, mesio-distally 2mm of recession. After the patient's consent, the site was treated by Miller's technique for free autogenous gingival grafting to achieve root coverage and increase the attached gingiva.

2.1 Surgical Procedure:

Preparation of Recipient Bed: After adequate local anesthetic application, the exposed root was planed thoroughly with a Gracey 1-2 curette. The horizontal incision was made at the level of cemento-enamel junction extending from the line angle of adjacent teeth on either side of the recession deep into the papilla, creating a well defined butt joint margin. At the distal terminal of the horizontal incision, vertical incision was given extending well into the alveolar mucosa, so that it is 3mm beyond the apical extent of the recession. A partial thickness flap was elevated and excised apically[3].

Preparation of Donor Tissue: A foil template was used to determine the amount of donor tissue needed. The template was made by adapting it to the recipient site. The left side of palate was chosen by measuring the thickness of the tissue using a file with a stopper. The area between second premolar and first molar which had greater thickness was selected for the donor tissue. The initial incision was outlined by the placement of tinfoil template with a no 15 scalpel blade. All palatal incisions were made in such a fashion as to create the butt joint margin in the donor tissue. This butt joint margin of the

graft will be butted against the butt joint margin in the papilla and against the accentuated enamel margins at the cemento-enamel junction[4]. A bevel access incision was made to get an even thickness of the graft. The incision was made along the occlusal aspect of the palate with no 15 scalpel blade held parallel to the tissue, continued apically, lifting and separating the graft. Tissue pliers was used to retract the graft distally as it is being separated apically and dissected, until the graft is totally freed. The graft obtained was inspected for any glandular or fatty tissue remnants. The thickness of the graft was also checked to ensure the smooth and uniform thickness. The graft was placed on the recipient bed and suture by means of interrupted sutures at the coronal and apical borders. A vertical stretching suture was given for close adaption of the graft to the tooth surface. After suturing a periodontal pack was placed to protect the surgical site. The palatal wound was protected by a pack and pack stabilized by Hawley's retainer[5].

Post Operative Instructions: The patient was asked not to brush at the surgical site for two weeks. 0.12% Chlorhexidine mouth rinsing twice daily for 3 weeks and a course of antibiotics including amoxicillin and ibuprofen thrice daily for 5 days. The pack was removed 2 weeks post operatively but the graft was not accepted by the recipient bed. Surgical site was irrigated with normal saline and suture was removed. The healing of palatal wound was satisfactory and patient did not complain of any discomfort. The patient was instructed to use a soft tooth brush with a roll-technique followed by a 60-second rinse with mouthwash for the next 6 weeks[6, 7].

3. Discussion:

This case report presented miller's class-II recession of tooth no 21, which was not successful in complete root coverage by free autogenous soft tissue graft. Miller's criteria for successful root coverage include: the soft tissue margin must be at the cemento-enamel junction, clinical attachment to the root, with sulcus depth of 2mm, and no bleeding on probing. Using these criteria for success, Miller treated 100 cases of marginal tissue recession with root planning, saturated citric acid burnished into the root of 5 minutes and with free gingival graft. Root coverage of 100% was attained in the area of deep-wide recession and 100% in shallow-wide recession. Root coverage by placing free graft was first described by Sullivan and Atkins, they reported that free gingival graft offers best results in cases of shallow and narrow recession[8]. According to them when graft is placed over recession, some amount of bridging can be expected because a portion of grafted tissue which is covering the root will survive by receiving circulation from the vascular portion of the recipient site. In addition to bridging, creeping attachment can result in a post operative coronal migration of free gingival margin. Factors which favor creeping attachment are narrowness of the recession, the presence of bone positioned inter-proximally at a coronal level on the facial surface, absence of gross tooth malpositioning, and adequate plaque control. In Miller's study complete root coverage has been obtained in area of deep-wide recession by various procedures. No procedure in periodontal surgery is more technically demanding or requires more attention to detail than free soft tissue grafting for root coverage[9]. Free gingival grafting is a procedure of high degree of predictability when used alone or combined with other technique. The therapeutic goal in any form of corrective surgery must be clearly defined and judged against the result that can be obtained with other procedures. If stabilization of existing recession is the therapeutic objective and full coverage of the exposed root is not needed, then a simpler mucogingival procedure should be selected[10].

Conclusion:

The free soft tissue autograft when used for increasing the amount of attached gingiva is a relatively simple surgical procedure. The use of the free soft tissue autograft for root coverage is a much more technique demanding. Overlooking or failing to properly address a single one of these factors can result in incomplete coverage.

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