

## AUTOGENOUS FREE GINGIVAL GRAFT

—A Technique And Case Report—

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### 遊離齒齦 自家移植術의 方法 및 症例報告

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.....>國文抄錄<.....

著者들은 Vestibular fornix의 延長, 露出된 齒根의 齒齦回復, 또는 附着齒齦의 幅徑을 增加 시켜주기 爲해서 遊離齒齦 自家移植手術을 6例는 下顎前齒部に, 2例는 下顎臼齒部に 施行하여 成功하였다.

手術後 3個月 6個月에 完全治癒結果를 나타냈으며 手術後의 後遺症으로 移植部位의 組織의 色調가 隣接組織과 比較해서 若干 差異가 있을 뿐이다.

本手術은 比較的 簡單하고 또한 治癒가 빠르며 豫後가 良好 하므로 齒周領域에 推薦할 만한 手術法이다.

## INTRODUCTION

Recently, many articles describing the advantages and indications for autogenous free gingival grafts have reported in the literature<sup>1,2,5,6,7</sup>.

The free gingival graft is one of the methods available for increasing the width of the band of attached gingiva, to deepen the vestibular fornix and to try for covering denuded roots<sup>3,4</sup>. But the relative procedural complexities involved in obtaining the donor tissue have discouraged many clinicians in this field.

These procedural complexities are: The inability to obtain consistently thin and uniform donor tissue, the difficulties involved in reflecting adequate palatal flaps, and the marginal or adjacent regions are unable to provide adequate donor tissue.

The predictability of successful grafts appears to be related to the use of thin donor tissue on an adequately prepared site.

This article presents information about the predictability, technique and indications for performing free autogenous gingival grafts and is based on clinical cases.

## INDICATIONS AND PROCEDURES

### *A) Indications for free autogenous gingival grafts:*

1. When an area is lacking in attached gingiva or the extension of periodontal pocket depth approaches the alveolar mucosa. The gingival graft may be utilized to gain an additional zone of attached gingiva enabling the area to withstand the physiologic forces of mastication.
2. In the presence of labial or buccal frena which extend into the marginal gingiva.
3. To prevent constant food impaction against the gingival margin or to aid in the preparation of the ridge for a prosthetic appliance.
4. To deepen the shallow vestibular fornix.
5. A localized narrow gingival recession or cleft, where the root coverage is the goal.

### *B) Procedure*

Step 1: Local anesthesia with epinephrine is infiltrated into and around the recipient site.

Step 2: Scaling, curettage, occlusal adjustment, gingivectomy, temporary splinting, etc. may be accomplished at this time.

Step 3: Preparation of recipient area.

The recipient site is initiated with a horizontal split-thickness incision made with a scalpel (#15, 11) Bard Parker just above the mucogingival junction line. This extends laterally to a distance at the length of the desired additional zone of attached gingiva. Using a scissor or periosteal elevator and blunt dissection, the alveolar mucosa is reflected leaving periosteum.

This dissection is carried out approximately twice the desired width of the attached gingiva, allowing for 50 percent contraction of the graft when healing is completed. The amount of contraction of the grafted tissue depends upon the extent to which the recipient site penetrates the muscle attachments<sup>7)</sup>. The exposed periosteum at the recipient site is covered with saline-impregnated gauze until the hemorrhage is controlled. This hemostasis is necessary for prevention of a hematoma beneath the graft, which is the most important cause of failure of the graft.

Step 4: Securing donor tissue

The donor site is also prepared by infiltration injections around the area to be used. An edentulous ridge, hard palatal mucosa, or attached gingiva from another area may serve as the donor site. We prefer to use the palatal mucosa because of its profound blood supply and accessibility. And place the template (Tinfoil) over the donor site and make a primary incision around it with a scalpel (#15, 11) Bard Parker.

Insert the blade to the desired thickness (1 -1.5mm) at one edge of the graft, elevate the edge, and hold it with a tissue forcep or placing suture.

Continue to separate the graft with the blade, lifting it gently as separation

progresses. Placing sutures at the margin of the graft helps control it during separation and simplifies placement and suturing to the recipient site. After the graft is separated, remove loose tissue tabs, and again the thickness of the graft tissue is controlled (1-1.5mm). If the graft tissue obtained from the hard palatal mucosa which is thick and fatty, special precaution should be made<sup>9</sup>).

#### Step 5 : Transfer and immobilize the graft tissue

Remove the saline-impregnated gauze from the recipient site and clean away excess clot. The graft should fit the recipient site with good marginal approximation. The periphery of the graft which overlaps the adjacent epithelium will slough and diminish in size.

Suture the graft at the lateral border and to the periosteum to secure it in position. Be sure the graft is immobilized, because movement interferes with healing. Firstly the graft is covered with tinfoil and secondly the periodontal dressing is placed over the graft with care being taken to prevent excessive pressure and/or displacement.

The dressing and suture are removed after one week period and repack for another week. Orahesive, periodontal dressing or Histoacryl might be applied to the exposed donor site.

## RESULTS

Eight free masticatory mucosal grafts were studied by clinical observations and photographs.

Six operations were performed in the mandibular anterior regions and two operations in the mandibular molar areas.

All grafts were placed on the facial surfaces of the alveolar process.

The patients were controlled for seven days postoperatively at which time the dressing, foil and sutures removed and a new periodontal dressing placed. At 14-day postoperatively, the graft was easily observed as having taken and healing was apparent at both donor and recipient sites. The patients were seen one month postoperative appointments. We have found healing was complete clinically after one month and the patients have reported no complications. Clinical photographs of two cases were presented here.

Case A (Fig. 1,2,3) has been followed for six months and Case B (Fig. 4,5,6) for three months. These cases demonstrated complete success and there is no clinically observable failure. But the graft tissue revealed slight color differences compared to approximating gingival tissue. The advantages of this technique over fenestration or vestibular extension operation used to date are;

1. Predictability : No failure has been experienced in eight cases. The newly formed attached gingiva and the extension of the vestibular fornix clinically has appeared after six months (Case A. 1,2,3) and three months (Case B. 4,5,6).
2. Rapid healing: Clinically, healing is completed at the recipient and donor sites

in one month.

3. Minium discomfort: Observations from this study indicate that the free autogenous gingival graft is a useful procedure and the numerous patients need this type of surgery.

## SUMMARY

A technique and indications of free autogenous gingival graft and two cases of free autogenous masticatory palatal mucosal grafts are presented here. Because of its simplicity, rapid healing and predictability, the authors hope the clinician will not hesitate to use this procedure when indicated.

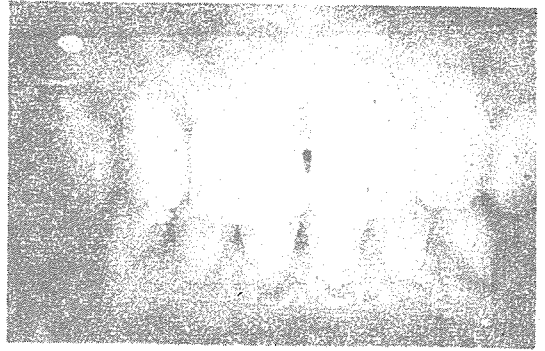
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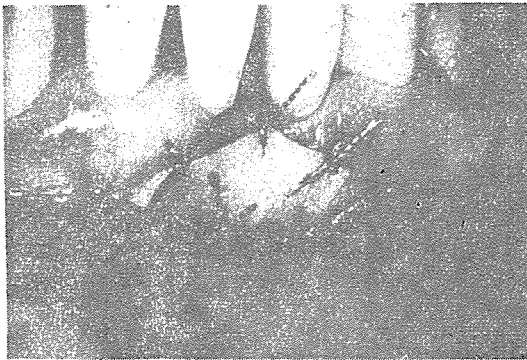
Explanation of Figures



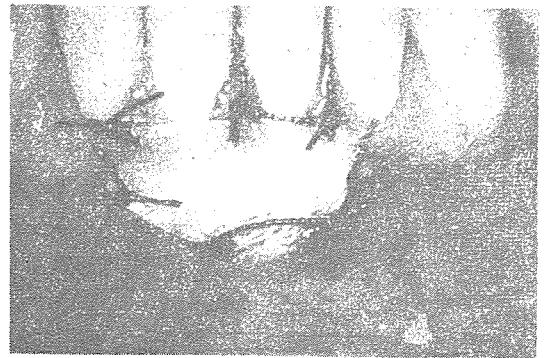
**Fig. 1.** Case A. Before Autogenous free gingival graft.



**Fig. 4.** Case B. Before Autogenous free gingival graft.



**Fig. 2.** Case A. After suture of graft tissue.



**Fig. 5.** Case B. After Sutuse of graft tissue.



**Fig. 3.** Case A. Six months postoperative



**Fig. 6.** Case B. Three months postoperative.