

A NOVEL FRENECTOMY TECHNIQUE



Medical Science

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ABSTRACT

There are several frena that are usually present in a normal oral cavity, most notably the maxillary labial frenum. Their primary function of frena is to provide stability for the upper and lower lip and the tongue. An abnormal upper labial frenum is capable of retracting the gingival margin, creating a diastema, limiting lip movement, gingival recession, and in cases of a high smile line, affecting esthetics also. When an abnormal high frenum is present, frenectomy is advised. This technique has been modified in many ways. But in most of the techniques the zone of attached gingiva and esthetics are not considered. This case report highlights a new technique of frenectomy that results in good esthetics, excellent color match, gain in attached gingiva, and healing by primary intention at the site of the frenum.

The need for treatment is mainly attributed to esthetic and psychological reasons, rather than functional ones. Possible therapeutic approaches include orthodontics, restorative dentistry, surgery and various combinations of the above. Their primary function is to provide stability for the upper and lower lip and the tongue. When an abrupt frenum is present, frenectomy is advised. This technique has been modified in many ways. But in most of the techniques, the zone of attached gingiva and esthetics are not considered. The present article reports on a novel technique in which adjacent attached gingiva in the central incisor region, bilaterally, was used to achieve a zone of attached gingiva with excellent color match at the site of the abrupt frenum.

CASE REPORT:-

A 32 year old female patient came to the Department Of Periodontology of Bharati Vidyapeeth Dental College and Hospital, Pune with chief complaint of carious front teeth and midline spacing. On examination, history suggest that from her childhood patient having midline diastema, and because of caries, diastema was prominent. Due to esthetic reason she was having confidence. And now patient wanted to get her diastema corrected. Intra oral examination shows abnormal labial frenum with small lateral feni. (Fig no 1) The "blanch test" was positive on pulling the upper lip. All teeth were present. An adequate amount of attached gingiva was present at the maxillary anterior region.

A new technique of frenectomy was planned considering the patient's concern for esthetics and high frenum attachment, which can leave a wide defect after excision by traditional techniques, leading to scar formation. All blood investigations were carried out which were within normal limit. A short case history was taken. No any significant medical history was noted.

SURGICAL TECHNIQUE

The maxillary anterior region was anesthetized with 1:200,000 lidocaine hydrochloride with adrenaline (LIGNOCAD ADR, CADILA pharmaceuticals) by local anesthesia on the buccal aspects. A V-shaped full-thickness incision was placed at the gingival base of the frenal attachment with an external bevel. Tissue along with periosteum was separated from underlying bone. The initial incision resulted in a typical rhomboid-shaped defect on the gingival side (Fig2), lip was dissected with scissor and undermining of the labial mucosa was done. An oblique partial-thickness incision was

placed on the adjacent attached gingiva (Figs 3), beginning 2-3 mm apical to the marginal gingiva and extending beyond the mucogingival junction. Partial-thickness dissection from the medial margin was carried out in an apicocoronal direction to create a triangular pedicle of attached gingiva with its free end as the apex and its base continuous with the alveolar mucosa (Figs 3). Alveolar mucosa at the base was undermined to facilitate repositioning of the pedicle without tension. A similar procedure was repeated on the contralateral side of the rhomboid-shaped defect, resulting in 2 triangular pedicles of attached gingiva. These 2 pedicles were sutured with each other at the medial side with the adjacent intact periosteum of the donor site (Fig no 4) by 4/0 suture, completely covering the underlying defect created by the initial frenal excision. Periodontal dressing (Coe-Pak, GC America) was used to cover the surgical site. Analgesics and 0.2% chlorhexidine mouthwash (Clohex plus, Dr.Reddy's Health Products) were prescribed for 7 days during the postoperative period. Postoperative instructions were given. Sutures were removed on the 10th day (Fig 5), and the patient was scheduled for follow-up recall visits at 1, 2, and 3 months. The 3-month follow up revealed a zone of attached gingiva with esthetic color match in the area previously covered by the frenum (Fig 6). Normal healing was seen without any visible scarring or complication.



Fig 1-PRE OPERATIVE VEIW



FIG - 2 RHOMBOID SHAPE DEFECT



FIG - 6 AFTER 3 MONTHS POST-OPERATIVE VIEW

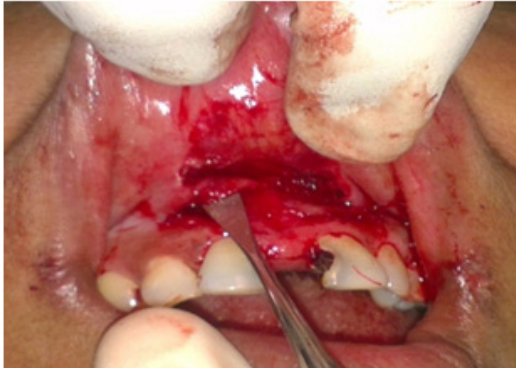


FIG-3 TRINGULAR PEDICLE OF ATTACHED GINGIVA WITH ITS FREE END

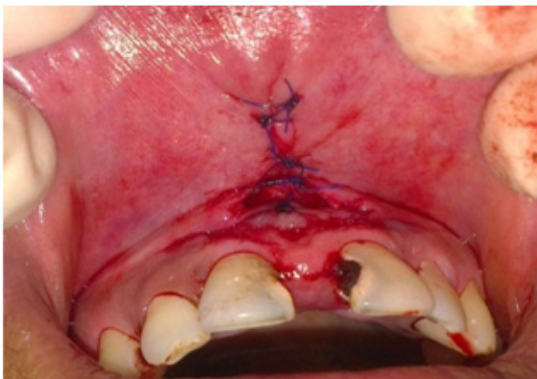


FIG NO-4 AFTER SUTURING 4-0 MERSILK SUTURE



FIG - 5 AFTER 10 DAYS POST-OPERATIVE VIEW

DISCUSSION

Various surgical techniques have been proposed for the correction of high labial frenum. Most of these produce unsatisfactory results; for example, a simple frenectomy that is made with a V-shaped incision leaves a longitudinal surgical incision and scarring, which may lead to periodontal problems and an unesthetic appearance. Several other procedures have combined frenectomy with a

lateral pedicle graft, free papilla graft, and free gingival graft taken from the palate. The lateral pedicle graft technique also positions the unilateral

pedicle at the midline but prevents complete coverage of the wound and formed frenum positioned slightly laterally. In the technique presented, 2 triangular pedicles, when sutured together medially, completely cover the defect and act as a tissue dressing, thus facilitating healing by primary intention and minimizing any chance of scar formation. Also, an external bevel in the initial V-shaped incision helps to achieve better marginal adaptation of the pedicles. Frenectomy followed by free gingival graft taken from the palate covers the wound area completely but creates an esthetic concern of unsatisfactory color match by producing a “keloid,” “tattoo-like” or “tirepatch” appearance at the grafted area. Techniques like simple excision and modification of V-rhomboplasty fail to provide satisfactory esthetic results in the case of a broad, thick hypertrophied frenum. This may be due to an inability to achieve primary closure at the center, consequently leading to secondary intention healing at the wide exposed wound.

The technique presented here provides many advantages, such as gain in attached gingiva in the region previously covered by the frenum, excellent color match, healing by primary intention, minimal scar formation, and prevention of coronal reformation. This technique may be suitable in situations where anterior esthetics is of primary importance. Presence of an adequate zone of attached gingiva is an important parameter during consideration of this technique. The technique is reliable and easy to perform and provides excellent esthetic results.

Caption:-

- Fig 1-Pre operative view
- Fig 2- Rhomboid shape defect
- Fig 3- Triangular pedicle of attached gingiva with its free end
- Fig 4-After suturing 4-0 MERSILK SUTURE
- Fig 5-After 10 days POST-OPERATIVE VIEW
- Fig6- After 3 months. POST-OPERATIVE VIEW

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