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A Classical Approach For Abberant Frenum Management

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Abstract
The lip and cheek are joined to the gingiva, periosteum, and alveolar mucosa by a mucous membrane fold called the frenum. Too tight attachment of the frenum to the gingival margin can cause gingival health problems. This can be caused by an interference with the control of plaque or by a tenseness in the muscles. A frenectomy is the course of treatment for such an abnormal frenum. This case study covers a frenectomy performed using the traditional method and follows the patient for one months.

Keywords: *frenectomy, conventional frenectomy, frenum, mucogingival technique.*

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I. Introduction

In order to have the perfect smile, dental treatment has become more and more important due to aesthetic concerns. Adults who still have a diastema between their maxillary central incisors are frequently thought to have an aesthetic issue. Focusing on the frenum has become crucial because having an abnormal frenum is one of the causes of a midline diastema's persistence [1].

When the frenal are too closely attached to the gingival margin, either due to an obstruction with the proper positioning of a toothbrush or through the opening of the gingival crevice due to a muscle pull, they may also endanger the health of the gingiva by generating a gingival recession [2].

Definition:

A frenectomy is the entire removal of the frenum from the jawbone. It may be necessary to close an abnormal gap between the maxillary central incisors.

Diagnosis

By applying pressure to the frenum, it is possible to visually identify aberrant frena1 by observing the papillary tip's movement or the blanch that results from localised ischaemia. When the frenum is particularly wide, there is no discernible zone of the associated gingiva along the midline, or the interdental papilla changes when the frenum is expanded, the frenum is classified as pathogenic.

Classification

Placek et al. (1974) [3] categorised the labial frenal attachments as mucosal, gingival, papillary, and papilla penetrating.

1. Mucosal - the mucogingival junction is reached when the frenal fibres are joined.
2. When the fibres are introduced inside the associated gingiva (gingiva).
3. Papillary refers to the condition where the fibres extend into the interdental papilla.
4. The frenal filaments stretch up to the palatine papilla after crossing the alveolar process.

Indications

The presence of an abnormal frenal attachment, which results in a midline diastema, qualifies the frenum as pathogenic and necessitates its removal.

• The presence of a flattened papilla with the frenum tightly linked to the gingival edge results in gingival recession and makes it difficult to maintain dental hygiene.

• There is a shallow vestibule and an abnormal frenum with an insufficiently linked gingiva.

Treatment

Procedures for frenectomy or frenotomy can be used to address the abnormal frena. Frenotomy is the incision and repositioning of the frenal attachment, whereas a frenectomy is the full removal of the frenum, including its attachment to the underlying bone [3].

In order to address the issues brought on by an aberrant labial frenum, several variations [10–12] of the various surgical procedures, including the Miller's technique, V–Y plasty, and Z–plasty, have been created since the traditional operation of frenectomy was initially introduced. The current article compiles several clinical cases of an aberrant frenum that were treated using various surgical techniques used for frenectomy, along with a note on the benefits and drawbacks of each surgery.

Case Report

A Having gap between her front teeth for the past five years, a 24-year-old female patient presented to the department of periodontology and implants. Pull testing performed following a clinical assessment revealed a papillary piercing kind of maxillary labial frenum attachment. Medical history had no bearing. The traditional approach first described by Archer (1961) and Kruger (1964) was designed after receiving informed consent for the labial frenectomy.

Armamentarium –

Haemostat, scalpel blade number 15, gauze sponges, 4-0 black silk sutures, suture pliers, scissors, and a Coe-pak periodontal dressing are all included in the armoury.The procedure used the traditional scalpel approach. 2% lignocaine and 1:80000 adrenaline are used to administer local infiltration. The haemostat was introduced to the vestibule's deepest point (Fig. The No. 15 Bard Parker blade was used to make two parallel vertical incisions.

The triangular resection frenum was excised, exposing the underlying tissue. Figs. 2 and 3.To separate the connected fibres and gradually mix the vestibular tissue, a horizontal incision was done. (Fig.2.)The suture was a size 4-0 (Fig. 3).A periodontal pack was used to cover the surgical site.

The patient was recalled after a week for suture removal. (Fig.5.) After one week satisfactory healing was observed. The patient was followed up for a period of 3 months and significant improvement was observed at the end of 3 months. (Fig.6.) Patient did not complain of any disturbance in speech and in chewing from front teeth after the removal of high frenum. The overall appearance of the patient’s soft tissues, gingiva and superior lip were found to be healthy and esthetic. The patient was referred to the department of orthodontics for the further treatment of midline diastema attachment from interdental

papilla until the mucogingival junction) in order to maintain the patient's aesthetic because of a prominent grin line. To reduce inner tissue damage and speed up healing, the deeper vestibule was operated on using the scalpel approach. After a week, the patient was called back for suture removal. During the healing period, there were no significant healing events. Three months were spent following the patient. There was no reversal of the results.The traditional frenectomy [2,13]

Kruger (1964) and Archer (1961) introduced the classical technique. To assure the elimination of the muscle fibres that were allegedly connecting the orbicularis oris with the palatine papilla, this method was recommended in situations with midline diastema with an aberrant frenum [2]. The palatine papilla, interdental tissues, and frenulum are all included in this kind of excision-type frenectomy.

The current example had a frenal attachment of the papilla type [Fig-1]. A local infiltration using 2% lignocaine and 1:80000 adrenaline was used to anaesthetize the region. A haemostat was used to engage the frenum and was introduced into the vestibule's depth [Fig-2]; incisions were then made on the haemostat's upper and lower surfaces to release it [Fig-3]. The haemostat-equipped triangular resection part of the frenum was excised. To release the fibrous attachment, the bone underwent a blunt dissection. Using 4-0 black silk and interrupted sutures, the edges of the diamond-shaped wound were stitched together [Fig-4]. A periodontal pack had been applied to the area. The pack and the sutures were removed 1 week post-operatively.

Unattractive or labial tissue scarring was one of the post-operative sequelae at one month of follow-up [Fig-5].

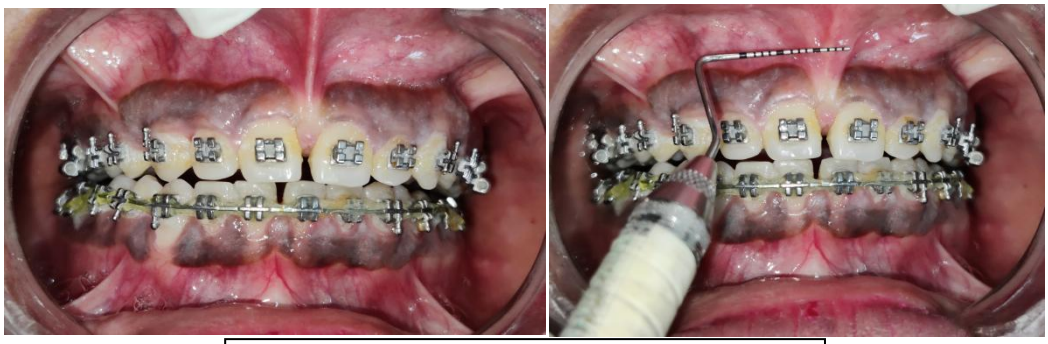

FIGURE 1. PRE OPERATIVE PICTURE

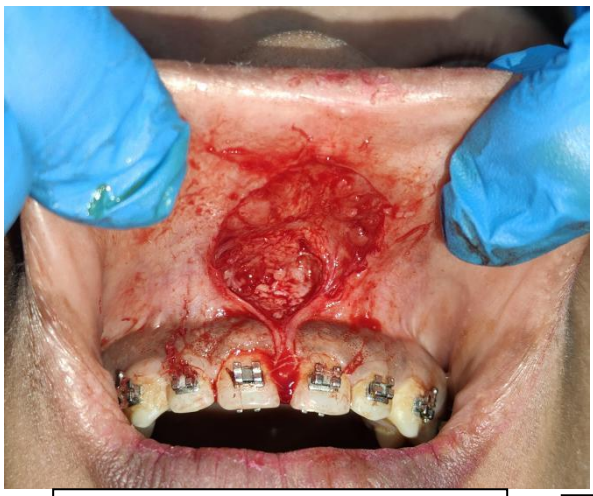

FIGURE 2.POST OPERATIVE

FIGURE 3.PLACEMENT OF 4-0 SUTURE

FIGURE 4. COE-PACK PLACED

FIGURE 5.ONE WEEK FOLLW UP

FIGURE 6.ONE MONTH FOLLOW UP

II. Discussion-

Modern periodontal plastic surgery employs more exacting and conservative methods to produce more aesthetically pleasing and practical outcomes. Given that one of the etiological elements contributing to the persistence of a midline diastema is the existence of an abnormal frenum, attention to the frenum has become crucial. Procedures called frenectomy or frenotomy can be used to correct the abnormal frenum [4].

Archer (1961) and Kruger (1964) introduced the classical technique. This method was recommended in situations with midline diastema involving an abnormal frenum in order to guarantee the excision of the muscle fibres thought to be attaching the palatine papilla to the orbicularis oris [5].

Oral frenula are congenital band-like formations on the midline that are fenced in by a mucosal membrane and made of fibrous, muscular, or fibromuscular tissue. High frenum attachment, microdontia, macrognathia, supernumerary teeth, peg laterals, absent lateral incisors, midline cysts, and habits including thumb sucking, mouthbreathing, and tongue-thrusting are the reasons for the distance between the maxillary incisors [6].

Typically, aberrant frenal attachments may need to be removed either prior to or following orthodontic treatment. The convenience of surgical access is a benefit of excision before orthodontic treatment [7].

Any of the modification procedures that have been suggested can be used to remove an aberrant frenum; however, depending on the type of frenal attachment, the right technique selection can produce both a functional and an aesthetically pleasing result [8].Some types of maxillary frenum have an impact on the periodontal condition. In situations involving gingival, papillary,attachment from interdental papilla until the mucogingival junction) to preserve the esthetic as the patient had a high smile line. Scalpel technique was followed in the deeper vestibule to prevent greater tissue damage in the interior aspect and for faster healing.Patient was recalled after one week for suture removal. Uneventful healing was observed during the healing phase. Patient was followed up for three months. There was no relapse of the outcome.

This fold is covered in stratified, layered epithelium and has vascular systems with thin peripheral nerve ramifications.

The papilla penetrating frenum was present in the current case report, and the traditional conventional procedure proved effective in achieving the desired result. The method produced the desired effects with total patient satisfaction, and it was easy to use.

III. Conclusion

Oral frenula are congenital band-like formations on the midline that are fenced in by a mucosal membrane and made of fibrous, muscular, or fibromuscular tissue.

This fold is covered in stratified, layered epithelium and has vascular systems with thin peripheral nerve ramifications.

The papilla penetrating frenum was present in the current case report, and the traditional conventional procedure proved effective in achieving the desired result. The method was easy to use, produced the desired effects, and left the patient completely satisfied.

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