

## Frenectomy- Case Report

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**Abstract:** The frenum is a mucous membrane fold that attaches the lip and the cheek to the alveolar mucosa, the gingiva, and the underlying periosteum. The maxillary frenum may present aesthetic problems or compromise the orthodontic result in the midline diastemacases, thus causing a recurrence after the treatment. The management of such an aberrant frenum is accomplished by performing a frenectomy.

The present article is a compilation of a brief overview about the frenum, and frenectomy with a case report.

**Keywords:** diastema, frenectomy, midline space closure

Date of Submission: 22-02-2020

Date of Acceptance: 06-03-2020

### I. Introduction

Frenum is a fold of mucous membrane, usually with enclosed muscle fibres that attaches the lips and cheek to the alveolar mucosa and/or gingiva and underlying periosteum.<sup>1</sup>

Classification of frenum based on the site of attachment-<sup>2</sup>

**Mucosal-** Here, the fibres of the frenum are attached to the mucogingival junction

**Gingival-** Here, the fibres of the frenum are attached to the gingiva

**Papillary-** Here, the fibres of the frenum are attached to the papilla

**Papillary penetrating-** Here, the frenal fibres cross the attached gingiva and the alveolar process and get inserted to the tip of the palatine papilla.

Frenum that are aberrant high attachment and are unusually wide are the main reasons for the midline diastema in maxillary anterior region leading to aesthetic problems.<sup>3</sup>

Midline space closure in high frenal attachment cases without the removal of frenum has led to the recurrence of the diastema. The aberrant frena, thus should be treated by frenectomy or frenotomy.

This paper presents a case of frenectomy done by routine scalpel technique (conventional technique).

#### Armamentarium-

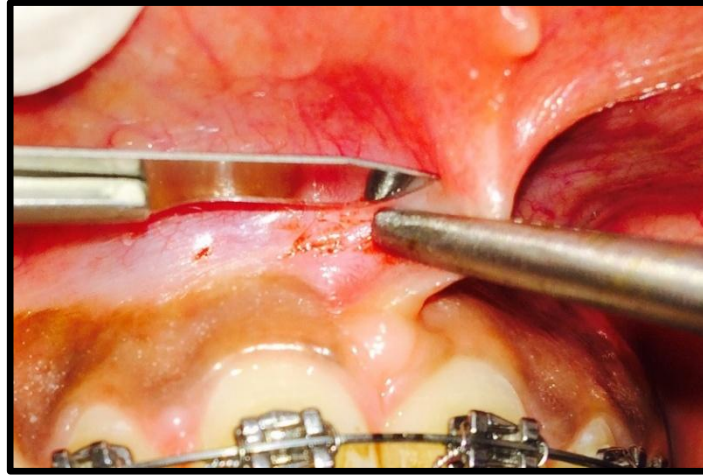
1. Local anaesthesia (2% lidocaine)
2. Haemostat
3. Surgical blade no. 15
4. B P handle
5. Normal saline
6. Suture
7. Periodontal dressing (coepak)
8. Scissors

A 24 year old female patient undergoing orthodontic treatment for the closure of the midline diastema was referred for the excision of the frenum. Upon intra oral examination it observed that the midline diastema was due the high frenal attachment. The frenal attachment was papillary penetrating type (Fig 1). The procedure details were explained to the patient and the patient consent was taken prior to the procedure.

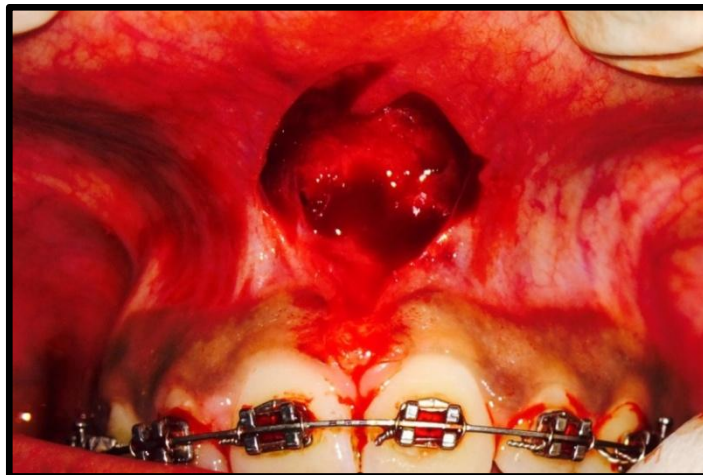


**Fig 1**

*Procedure-* After profound anaesthesia of the area ,the frenum was engaged with an artery haemostat till the depth of the vestibule. The incision was made on the upper and the lower borders of the haemostat extending upto its tip. (Fig 2) The triangular shaped excision tissue was removed and a rhomboid shaped cut in the surgical area was seen. (Fig 3)



**Fig 2**



**Fig 3**

Through this cut blunt dissections were made in the muscle attachments to the bone, separating the fibres. The surgical site was then irrigated with normal saline and adequate haemostasis was achieved. Interrupted sutures were given (Fig 4) and the area was covered by periodontal dressing.(Fig 5)

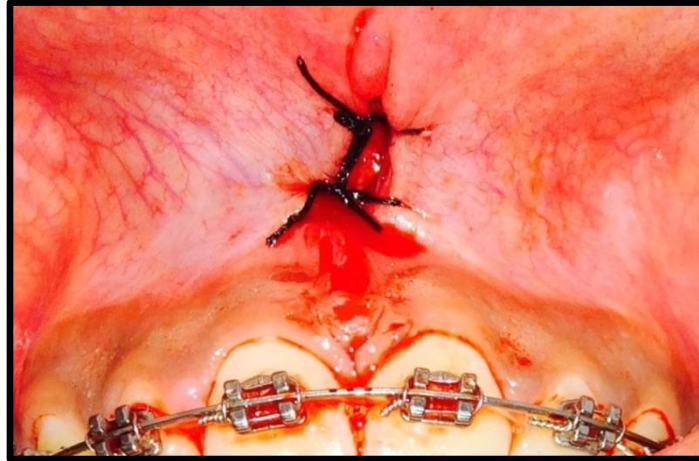


Fig 4

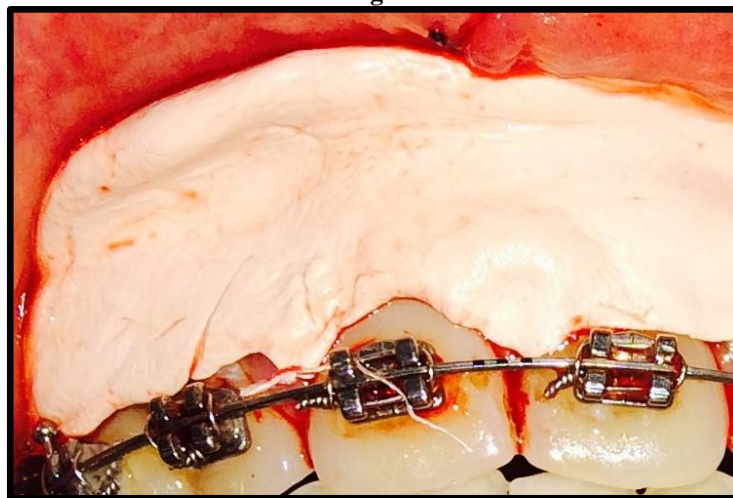


Fig 5

***Post operative instructions-***

Patient was advised not to consume hard food substances from the anterior region and to avoid hot and spicy food. Patient was given proper oral hygiene instructions. Post operative medications included antibiotics, analgesics and mouthrinse.

At 2 weeks follow up, healing of the mucosal tissues were significant and no post operative pain or oedema was present. Sutures were removed with topical anaesthesia and the surgical site was irrigated with betadine. Patient was recalled after 1 month for follow up. (Fig 6)



Fig 6

## II. Discussion

Conventional frenectomy with scalpel is the first and the oldest technique introduced for this procedure. Various other techniques have been introduced thereafter such as the Millers's lateral pedicle graft technique,<sup>4</sup> V-Y plasty<sup>5</sup> and Z palsty.<sup>6</sup>

Surgical excision of the frenum has few drawbacks such as patient anxiety and intra operative bleeding.

Currently there are many other techniques that have been introduced for frenectomy such as frenectomy using lasers such as Nd :Yag laser<sup>7</sup>, diode,<sup>8,9</sup> diode in conjunction with Er : Yag<sup>10</sup> and electrocautery.<sup>11</sup>

Though these advanced techniques have certain limitations such as-

1. Expensive procedure.
2. Post operative pain and oedema.
3. Technique sensitive procedures such as the V –Y plasty and Z plasty procedures are difficult to perform with lasers as there is a need for a clean and sharp incision for proper approximation of the tissues post surgery.

## III. Conclusion

Closure of the maxillary midline diastema with a prominent frenum is more predictable with frenectomy and concomitant orthodontic treatment than with frenectomy alone. This study demonstrates the importance of an interdisciplinary approach to treat maxillary midline diastemas, including general practitioners, periodontists, and orthodontists.

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