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Labial Frenectomy with Electrocautery

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Abstract

The frenum is defined as mucous membrane fold that attaches lip and cheek to the alveolar mucosa, the gingival, and the underlying periosteal tissue. An aberrant frenum encroaches the gingival health when it is attached too closely to the gingival margin, either due to interference in the plaque control or due to a muscle pull, such condition is treated by frenectomy which can be performed by different methods like with scalpel, electrocautery or with soft tissue lasers.

Introduction

Aesthetic concerns among the people have led to the increasing demand for the treatment. The presence of diastema between the maxillary incisors is one of the main reason of concern among young patients, the presence of aberrant frenum is considered one of the factor for persistence of midline diastema, the focus on the frenum has become essential[4].

Frenectomy can be accomplished either by the conventional scalpel techniques, electro surgery or by using lasers. Recent methods like electro surgeries, lasers reduces the patient compliance and routine risks of surgery. Researchers have advocated the use of an electrocautery probe due to its efficacy and due to the safety of the procedure, the mild bleeding and the absence of postoperative complications. However it is associated with certain complications like burns, risk of explosion if combustable gases are used, interference with pacemakers and production of surgical smoke. These complications are overcomes with the new argon beam coagulation introduction (ABC)[4,5].

Etiology: The maxillary labial frenum as post-operative remnant of the ectolabial bands which connect the tubercle of the upper lip to the palatine papilla. When two central incisors erupt widely separated, no bone is deposited inferior to the frenum. A v-shaped bony cleft between the two central incisors and an abnormal frenum attachment result [4].

Diagnosis: The abnormal frena are detected visually by applying tension over the frenum to see the movement of the papillary tip, the blanch which is produced due to ischemia in the region. The frenum is characterized as pathogenic when it is unusually wide or where there is no apparent zone of the attached gingival along the midline or the interdental papilla shifts when that frenum is extended.

Classification

It is given by placek et al (1974)[3]

1. Mucosal-when the frenal fibers are attached up to the mucogingival junction.
2. Gingival-when fibers are inserted within the attached gingival.
3. Papillary-when the fibers are extending into the interdental papilla.
4. Papilla penetrating-when the frenal fibers cross the alveolar process and extend up to palatine papilla.

Indications

The frenum is characterized as pathogenic and is indicated for removal when

An aberrant frenal attachment is present, which causes a midline diastema.

A flattened papilla with frenum closely attached to gingival margin is present.

An aberrant frenum with an inadequately attached gingival and shallow vestibule is seen.

Treatment

There are various frenectomy procedures:

- Conventional frenectomy
- Millers technique
- V-Y plasty
- Z plasty
- Frenectomy with electrocautery

The procedure we gona discuss is with electrocautery in this case of labial frenectomy.

The labial frenal attachments have been classified by placek et al in 1974 as:

- Mucosal
- Gingival
- Papillary
- Papillary penetrating

Armamentarium and procedure: electrode, hemostat, gauze sponges, saline, LA syringe, scalpel bladeno.15,4-0.

Technique: Hemostat was used to elevate tissues, hold it tight and was inserted into the depth of the vestibule. The ART-E1 electrosurgery unit was used. The setting on the cutting electrode was set with 4RF/2MHz, power supply of 0.9A 210 VA. The working frequency was adjusted to 1.5 MHz. two incisions using electrode or scalpel were made as in conventional frenectomy technique, above and below the hemostat. Continues saline irrigation was given while using the electrocautery. The triangular tissue of labial frenum then removed with hemostat, and is made free.

Fig. 1: Preoperative image of the attached type of frenal attachment.

Fig.2: Frenum excision with electrocautery.

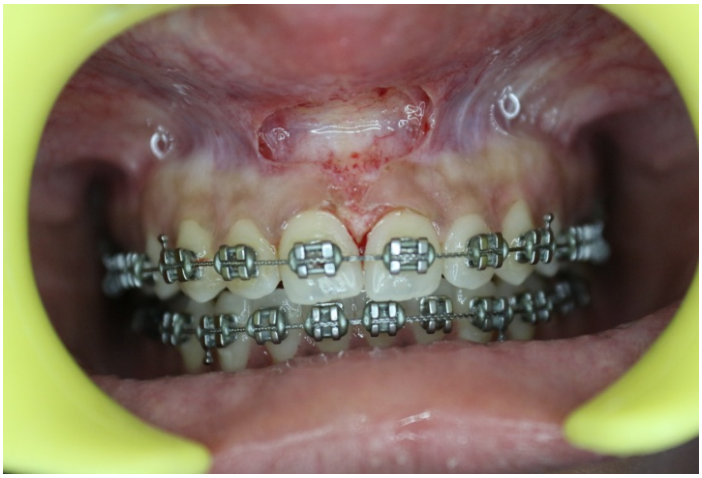

Fig. 3: Excised frenum.

Follow up: the patient was observed for 1 week .A four week follow up was also completed. Healing takes place with primary intention.

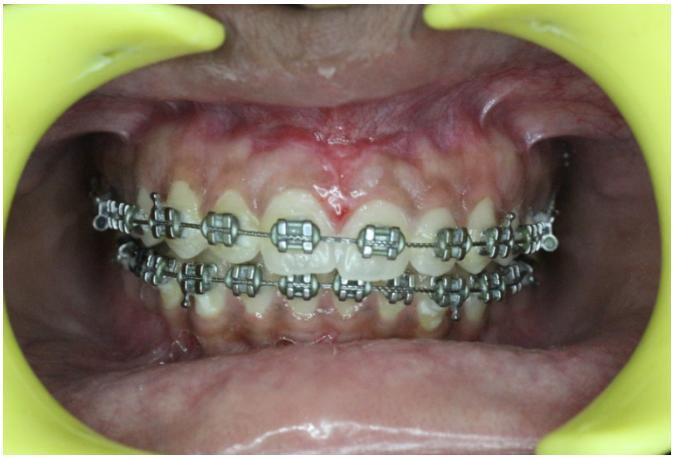

Fig.4: Post 1 week image

Conclusion

while the aberrant frenum can be removed by any of the modification techniques, a functional and aesthetic outcome can be achieved by proper technique selection,

With slight benefit of electrocautery over conventional methods. The procedure offers the minimum time consumption and bloodless field during procedure, with no requirement of sutures moreover patient treated with electrocautery didn't have any pain post operatively nor he have any collateral tissue damage.

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