

# Management of high frenulum and palatal gingival enlargement with frenectomy and gingivectomy

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## Abstract

**Objective :** In this article, we would like to present the case management and the results obtained from an elevated frenulum combined with gingival enlargement in the midline palatal area of the maxillary central incisor.

**Methods:** A female patient aged 24 came to RSGM UNAIR with a complaint that there was a distance between her upper front teeth that interfered with her appearance and wanted to be straightened. In the upper jaw, the patient complains of getting stuck in food too. The patient wanted treatment because after that he wanted braces treatment. The patient admitted that he had put braces on in February 2021 at the dentist and a few moments later the upper front gums were swollen and red, then the braces were removed. The last patient cleaned tartar a year ago. The patient admitted that he regularly brushes his teeth 2 times a day while bathing and that his gums sometimes bleed.

**Results:** The surgical procedure for raising the frenulum was also approved by the patient for gingivectomy in the palatal area of the maxillary midline incisors. The procedure is performed under local anaesthesia. Control was carried out 14 days after the procedure to remove the sutures, and 1 month for monitoring, the patient did not complain of pain and there were no complaints of food being stuck between the maxillary incisors.

**Conclusion:** management of high frenulum with frenectomy, needs to be done to prevent the continuation of diastema as well as gingival enlargement in the patient's palatal area. patients are satisfied with the results of the treatment and it is easier to clean their teeth.

**Keywords:** Frenectomy, gingivectomy, high frenulum, gingival enlargement

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## Introduction

A frenum is a fold of mucous membrane, usually with enclosed muscle fibers, that attaches the lips and cheeks to the alveolar mucosa or gingiva and underlying periosteum. A frenum becomes a problem if the attachment is too close to the marginal gingiva.<sup>1</sup> The frenula in the oral vestibule consist of the labial and buccal frenula. The labial frenulum is located in the middle of the oral vestibule. The upper and lower labial frenula are commonly attached below the upper and lower alveolar crests, respectively.<sup>2</sup> Clinically, an abnormal labial or buccal frenulum can retract the gingival margin, create a median diastema, limit the movement of the lip, and affect esthetics

The continuing presence of a diastema between the maxillary central incisors in adults is often considered an esthetic or a malocclusion problem. A frenulum attached too close to the gingival margin can cause diastema, gingival recession, bone loss due to a muscle pull, and poor

lip mobility, especially when smiling and speaking.<sup>3</sup> Aesthetic concerns have led to an increasing importance in seeking dental treatment to achieve pleasing smile. The presence of a diastema between the maxillary central incisors in adolescents is an aesthetic problem. The presence of an aberrant frenum being one of the aetiological factors for the persistence of a midline diastema, the focus on the frenum has become essential.<sup>4</sup>

The unusual frenum can be treated by frenectomy or by frenotomy procedures. Surgical removal of the unusual frenum is known as frenectomy that includes its attachment to the underlying bone, whereas frenotomy is the incision and the repositioning of the frenal attachment. The conventional technique comprises excision of the frenum by using a scalpel.<sup>5</sup> Sometimes the elevation of the frenulum can also cause the accumulation of local factors that cause gingival enlargement in the palatal area. If this happens, then the management of frenectomy can be done simultaneously with the removal of the gingival enlargement. The purpose of this case report is to report the surgical procedure on a patient with an elevated labial frenulum and an enlarged palatal gingiva, using conventional surgical methods.

## Case Report

A 24-year-old female patient came to the Dental and Oral Hospital, Faculty of Dentistry, Airlangga University with a complaint that there was a gap in her upper front teeth which interferes with her appearance. The patient admitted that he had put on braces in February 2021 at the dentist and a few moments later the upper front gums were swollen and red, then the braces were removed. The last patient cleaned tartar a year ago. The patient admitted that he regularly brushes his teeth 2 times a day while bathing and that his gums sometimes bleed.

Intra-oral examination found bleeding on probing in almost all regions, visible signs of inflammation, namely redness, smooth surface and accumulation of local factors were also seen in all regions. A blanch examination was also performed, and a positive result was obtained on examination of the superior labialis frenulum. On intra-oral examination, a high frenum of the gingival type was found. In addition, there was also gingival enlargement in the midline palatal area of the maxillary central incisors.

The first visit of the patient was carried out with scaling and root planing, the control was carried out one week post-scaling.



Figure 1. front and occlusal view of the maxilla, enlarged in the palatal interdental area of the central incisors



Figure 2. Blanch test and enlargement were seen in the maxillary central incisor palatal

One week after scaling and root planing, the control was carried out and the signs of inflammation had decreased, then a frenectomy and gingivectomy were planned in the maxillary central incisor region. At the next visit, frenectomy and gingivectomy were performed. After asepsis of the work area, topical and local anesthesia were administered. Then the frenulum incision margin was measured with an arterial clamp. then an incision is made in the frenulum area according to the specified limits, the frenulum muscles are released, after being free, sutured using non-absorbable nylon thread with interrupted suture technique. Then in the palatal area of the central incisor a gingivectomy was performed, previously making a bleeding point with a probe marking forceps.



Figure 3. Work area asepsis, topical anesthesia and local anesthesia are performed



Figure 4. Cut the area of the frenulum that has been determined above and below arterial clamp



Figure 5. The frenulum muscles were released and the bleeding point was measured on the palatal maxillary central incisor



Figure 6. Gingivectomy incision is made 1mm below the bleeding point





Figure 7. Suturing the area where the frenectomy was performed and giving a periodontal pack to the post gingivectomy area

After the procedure, drugs are given, namely Amoxycillin 500mg, Sodium diclofenac 50mg and mouthwash. 2 weeks after the procedure, the control was carried out, and the stitches were removed. There are no signs of inflammation such as redness and the frenulum has been corrected.



Figure 8. control 2 weeks after the procedure



Figure 9. treatment results

## Discussion

A thick, wide maxillary labial frenulum attached close to the gingival margin is often considered a contributing factor for midline diastema and delayed growth of the premaxilla. The primary role of the frenulum is to provide stability to the upper lip and maintain a balance between the growing bones.<sup>6</sup> An “abnormal” frenulum is clinically defined as a prominent tissue band with an attachment in the palatine papilla showing some blanching when tension or pull is exerted on it. Some disadvantages and disturbances that frenulum abnormality causes are diastema, abnormal position of the anterior central incisors, rapid dental caries, periodontal problems arising from food impaction, esthetic concerns, and upper lip damage.<sup>7</sup>

In case of problems and complaints from the patient, treatment should be initiated, which is a frenectomy using a surgical blade, also for the management of gingival enlargement in the palatal area in the midline of the maxillary central incisors by gingivectomy. Frenectomy may be defined as the complete removal of the frenum including its bony attachment. Frenectomy can be accomplished by scalpel method or by using electrocautery or laser. The surgical techniques which were done in adolescents here: conventional (Classical) frenectomy, Miller’s technique and Z Plasty.<sup>8</sup>

In the management of this case, the conventional frenectomy technique was used, by using 1 arterial clamp. This approach was advocated in the midline diastema cases with an aberrant frenum to ensure the removal of the muscle fibres which were supposedly connecting the orbicularis oris with the palatine papilla. It is an excision type frenectomy which includes removal of the interdental tissues and the palatine papilla along with the frenulum.<sup>9</sup> With conventional technique could decrease bleeding and wound expansion during frenectomy. this technique could minimize scar tissue formation, give a good color to gingiva and also without any scar due to anesthesia. This simple technique could be done and give an excellent esthetic result.<sup>10</sup>

The management of gingivectomy on the midline palatal maxillary central incisor gave satisfactory results for the patient. The main complaint previously was the frequent snagging of leftovers. after the gingivectomy, the complaints are no longer there.

## Conclusion

Management of patients with cases of high frenulum and gingival enlargement in the midline palatal area of the maxillary incisors, gave good treatment results with the selection of appropriate frenectomy and gingivectomy techniques. Of course, this is chosen based on the condition of the frenum in each case

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