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LABIAL FRENECTOMY AS A MOUTH PREPARATION PROCEDURE IN ORTHODONTIC TREATMENT FOR MIDLINE DIASTEMA CASES: CASE REPORT

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INTRODUCTION

Frenulum is a mucous membrane fold which contains muscle and connective tissue that attach the lip and cheek to the alveolar mucosa, gingiva, and periosteum. Blanch test is used to diagnose the extension of frenulum attachment. Based on the classification of frenulum attachment by Pacek (1974), the patient has papilla penetrating type due to the fibres cross the alveolar process and extend up to the palatine papilla.¹ The situation cause problems to control plaque that can damage the periodontal tissues as well as the presence of an aesthetic problem such as diastema and gingival recession. If this aberrant frenulum is left untreated, it may compromise the orthodontic result in the midline diastema cases. Classical technique of frenectomy currently used as a surgical step to eliminate the extension of frenulum attachment for aesthetic and functional reasons.

OBJECTIVE

To remove the frenulum attachment that approaching interdental papilla as mouth preparation for orthodontic treatment in midline diastema cases.

CASE

A 22-year-old female patient who reported to the Department of Periodontics Faculty of Dentistry Universitas Padjadjaran with the problem of a midline diastema between the maxillary central incisors. Diastema between 11-21 due to an abnormal frenulum attachment that reached the interdental papilla was found through clinical examination (Figure 1). The radiologic features showed no defect. The diagnosis was papilla penetrating type of frenulum attachment. The technique used was classical frenectomy that doing excision the interdental tissues and the palatine papilla along with the frenum.^{2,3}

CASE MANAGEMENT

Patient was told about the procedure and informed consent was taken. The area was anaesthetized using pehacain with a local infiltration either on the labial nor palatal aspect (Figure 2). The frenum was clipped with a single haemostat which inserted extended apically up to the vestibular depth. The excisions were placed on the upper and under the surface of haemostat until the clipped tissues by haemostat was removed as well as fibrous tissue until the alveolar bone in the midline was exposed (Figure 3, 3a). To prepare the tissue for sutures, the tension of the tissue have to be released using partial dissection to created the raised flap (Figure 4). A raised flap mobilised mesially and then sutured across the midline using 5-0 nylon sutures (Figure 5). Periodontal dressing (COE PAK) was placed on the surgical site. Dressing and the sutures were removed 1 week later (Figure 6). At 1 month follow-up, gingival re-epithelization were achieved perfectly as well as the frenulum attachment was approaching the vestibule. There was gingiva across the midline and the interdental papilla was maintained (Figure 7).

CLINICAL FEATURES



Figure 1. Pre-operative clinical features, a. Labial aspect, b. Palatal aspect



Figure 7. 1 month follow-up. a. Labial aspect, b. Palatal aspect

PROCEDURES



Figure 2. Local infiltration anaesthetized, a. Labial aspect, b. Palatal aspect



Figure 3. Excisions on the upper and under the surface of haemostat (Right: Excision tissue)



Figure 4. Partial dissection to release the tissue tension



Figure 5. Sutured across the midline

DISCUSSION

The presence of aberrant frenum being one of the aetiological factors for the persistence of midline diastema which cause an aesthetic problem. It is often exist on the facial surface between the maxilla and mandible central incisors as compared to the lingual surface of the mandible.^{4,5} This case used classical or conventional technique frenectomy by Archer (1961) and Kruger (1964) to remove the aberrant frenum. The technique could remove all of the muscle fibres that cross the alveolar process and extend up to the palatine papilla. Nevertheless, Devishree (2012) found that the classical technique leaves a longitudinal surgical scarring which may lead an unaesthetic appearance, so that another surgical techniques modifications be required.²

CONCLUSION

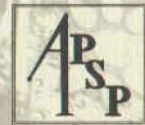
Frenectomy is a treatment to release the frenulum attachment that approaching interdental papilla. In this case, frenectomy was done as a mouth preparation for orthodontic treatment in midline diastema cases

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Certificate of Appreciation

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A handwritten signature in blue ink, appearing to read "Yulianti Kemal".

Dr. Yulianti Kemal
Chairperson