Treatment of gingival recession using gingival mask

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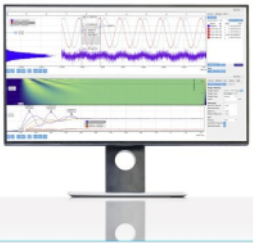

Treatment of Gingival Recession Using Gingival Mask

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Abstract. Gingival recession can lead to aesthetic deformities and dentin hypersensitivity, because of an open root surface, and loss of interdental papilla (called black triangle). Not all case of gingival recession can be treated with periodontal surgery. According to Miller's classification, the gingival recession divided into four classes. In Miller's class III and IV, gingival recession can be treated using gingival mask. The aim of this article is to introduce the treatment of gingival recession using gingival mask. Gingival mask can improve aesthetically of gingival recession defect. Gingival mask can also eliminate hypersensitive dentin due to denuded root surface. Gingival mask was a good treatment option in advanced gingival recession and achieving esthetic results and patient satisfaction.

INTRODUCTION

Gingival recession is the opened of the tooth root surface due to the migration of the gingival margin and junctional epithelium to the apical. Clinically characterized by the gingival margin apically to the cemento-enamel junction. In some cases, a narrow gingival attachment is often found, with varying sulcus depth. Gingival recession may affect in aesthetic problem, because apical migration of the gingival margin lead to a black triangle on the interproximal gingiva [1]. Furthermore, gingival recession results in dentine hypersensitivity because of the denuded root surface. This condition can be observed by manifestation of a long clinical tooth when compared with normal teeth. Exposed root surface can also cause cervical abrasion and erosion due to the environment factors [2].

There are many possible causes for gingival recession by several factors, including anatomy, physiology, and pathology. Anatomical factors that can cause gingival recession is fenestration and dehiscence in the alveolar bone, malposition of the tooth, and prominent root surface. In addition, high frenum attachment, and hereditary factors can also lead to gingival recession [1,3]. Physiological factors can occur due to orthodontic tooth movement, both lingual and labial, which tends to lead dehiscence. The aging process is one of the causes of the physiological gingival recession. Pathological factors can occur because of gingival inflammation that makes bad oral hygiene, occlusal trauma, toothbrush trauma, smoking, excessive alcohol consumption, not perfect restoration, hormonal factors, and due to procedures of periodontal surgery [4].

CLASSIFICATION OF GINGIVAL RECESSION

There are several theories about the classification of gingival recession, but what is commonly used is Miller's theory. According to Miller's classification, the gingival recession divided into four classes [1].

1. Class I: characterized by gingival recession does not expand to the mucogingival junction (MGJ), without periodontal loss (bone or soft tissue) in the interproximal.
2. Class II: characterized by gingival recession extends to or beyond the MGJ, without periodontal loss (bone or soft tissue) in the interproximal.
3. Class III: characterized by gingival recession which extends to or beyond the MGJ, with periodontal loss (bone or soft tissue) in the interproximal or there is teeth malpositioning.
4. Class IV: characterized by gingival recession which extends to or beyond the MGJ, with periodontal loss (bone or soft tissue) in the interproximal and/or severe malpositioning of teeth.

Gingival recession can cause several clinical consequences, that is: the root surface becomes open so that it is susceptible to caries, erosion of cementum and dentin due to an open root causes teeth to become more sensitive, moreover lead to pulp hyperaemia [3].

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Treatment for gingival recession

Gingival recession can be treated with surgery or non-surgery based on the level of the recession gingival and bone or soft tissue loss. If the gingival recession is classified into class I and II, the treatment will be mucogingival surgery. But, if the gingival recession is classified into class III and IV, the treatment will be non-surgery such as make restoration on denude root surface with the same color as gingiva or make the gingival mask to cover the exposed root surface. Patients who have several teeth with class III or IV gingival recession may have an unaesthetic appearance because of black triangles. In these cases, surgical procedure is not appropriate, so that removable artificial gingival such as gingival mask may be used [4].

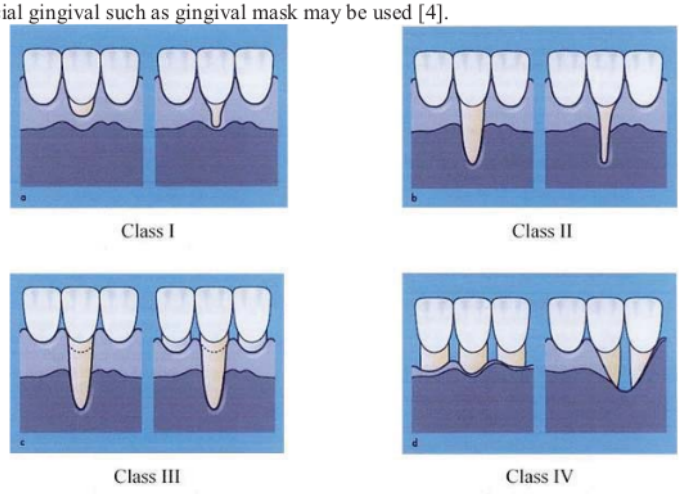

FIGURE 1. Miller's classification of gingival recession

According to Pradhan[3] gingival recession treatment must fulfill the following criteria: marginal gingiva can cover the cemento-enamel junction, gingival sulcus depth is around ± 2mm, there is no bleeding on probing, presence of keratinized gingiva, gingival color is the same as the surrounding and no complaints of dentin hypersensitivity. Criteria like Pradhan mentioned above, can only be achieved with mucogingival surgical techniques, while many patients with gingival recession who are not possible to be treated with surgical procedures for several reasons are contraindications to surgery.

DISCUSSION

Recently, non-surgical treatments have been developed to treat gingival recession. Treatment is aimed at overcoming aesthetic problems as well as dentine hypersensitivity [5]. One of the treatment is application of gingival mask that is applied to the recession area. However, treatment using gingival mask cannot be applied to all patients who experience gingival recession. Treatment using gingival mask can only be applied to the recession patients who are accompanied by proximal gaps (interdental black triangle) with sufficient width. The existence of this proximal gap is necessary because the attachment of gingival mask to the original gingiva is obtained through mechanical attachment made in such a way to the proximal gap, which functions as retention of gingival mask. The existence of limitations as mentioned above, then classified as an indication of treatment with the use of gingival mask is class III and IV Miller's classification.

FIGURE 2. Gingival mask

Gingival recession can cause aesthetic and medical problems. Aesthetic problems generally occur because the teeth appear to be elongated, whereas medical problems include: dentine hypersensitivity due to an exposed root surface and narrowing of the width of the attached gingiva. In principle, gingival recession treatment is intended to overcome the consequences caused by the recession. Thus, the optimal treatment is taken to improve aesthetics and eliminate dentine hypersensitive [6].

Gingival recession treatment can be performed both surgical and non-surgical. Surgical treatment is believed to be effective in overcoming problems caused by recession [7-9]. However, not all patients and not all types of recession can be treated surgically. So, to cover up the lack of surgical techniques, non-surgical treatment techniques have now been developed using artificial gingiva. This technique is quite easy to manufacture and practical in use.

Recession treatment using gingival mask can only be done in Miller's class III and IV recession, while Class I and II are not an indication of treatment with this technique. This is reasonable because artificial gingiva needs mechanical retention for attachment. This mechanical retention utilizes a proximal gap between teeth which is an undercut region for artificial gingiva. Proximal fissures like this are not found in Miller Class I and II recession types [10].

Making gingival mask is said to be quite easy, because the material used to make gingival mask is the material commonly used as an acrylic base denture removable liner, so it is easily formed according to conditions in the mouth. The nature of this soft liner material is quite advantageous because it makes the gingival mask can be flexible so that it is easily applied. Gingival mask can be easily placed and removed from the proximal gap without causing pain. This flexural property also makes the gingival mask undercut function well so that its retention is quite good. Another advantage is that the color of the soft liner material is slightly transparent so that when applied to a gingival region that is experiencing a recession, the color of artificial gingiva can be similar to the color of the original gingiva. This aesthetic aspect makes artificial gingiva chosen as an alternative treatment in cases of gingival recession.

Besides being able to overcome aesthetic problems, clinical facts prove that gingival mask applied to the regions of teeth experiencing gingival recession can reduce dentine hypersensitive complaints. This complaint is reduced because artificial gingiva covered most of the root surface which was originally exposed due to recession. These benefits are consistent with what was stated by Greene [8], that treatment of gingival recession should ideally overcome both aesthetic complaints and dentine hypersensitive.

The disadvantage of this technique is that it cannot cover the entire root surface. Gingival mask cannot cover the root surface of the palatal/lingual part so that through this surface it is still possible for external stimuli to affect the tooth nerve. However, this effect is minimal, because most of the root surface has been covered by gingival mask.

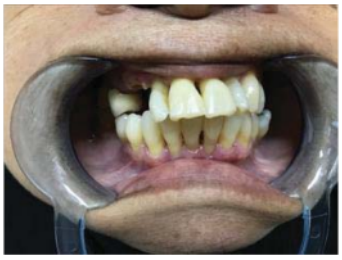

FIGURE 3. Before using gingival mask

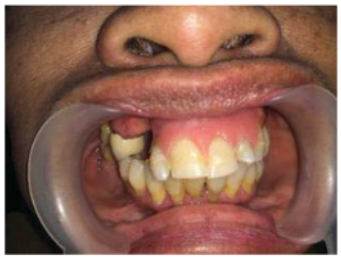

FIGURE 4. After using gingival mask

CONCLUSION

Advanced gingival recession can be treated using gingival mask because this artificial gingiva can achieve esthetic results and patient satisfaction. Treatment using gingival mask can also eliminate dentine hypersensitivity.

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