TREATMENT OF GINGIVAL RECESSION USING GINGIVAL MASK

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ABSTRACT

Background: Gingival recession can lead to cosmetic deformities, dentin hypersensitivity because of an open root surface and accumulate food debris and excessive plaque formation because of the loss of interdental papilla(called black triangleor open gingival embrasure). The loss of interdental papilla is also a consequence of periodontal disease because of gingival inflammation, attachment loss and interproximal bone height resorption. Not all case of gingival recession can be treated with periodontic surgery. There are several theories about the classification of gingival recession,but what is commonly used is Miller's Theory. According to Miller, gingival recession is divided into 4 classes. If the gingival recession is classified into class III or class IV, the reconstruction of this area with artificial gingival can be useful to correct the deformities remaining after the control of periodontal diseases, especially in the maxillary anterior region. Gingival Mask can provide comfortable, stable,accurately fitting, and the most important is aesthetically restore the interdental papilla and gingival recession defects. **Discussion:** Various problems can arise due to gingival recession and black triangle. Starting from an aesthetic problem when the recession occurs in the front and lower teeth, hypersensitivity to the dentin due to an open root surface. Gingival mask is an

aesthetic resolution to improve aesthetic and eliminate hypersensitive dentin.**Conclusion:** Gingival mask is a good treatment option in advanced gingival recession and achieving esthetic results and patient satisfaction.

Keywords: Gingival Recession, Black Triangle, Gingival Mask.

INTRODUCTION

Gingival recession is the opening of the root surface of a tooth due to migration of the gingival and junctional epithelium to the apical. Clinically characterized by the gingival edge apical to the cemeto-enamel junction.[1] In some cases a narrow gingival attached is often found, with varying sulcus depth.[1]

Gingival recession usually characterized by a black triangle on the gingival interdental.[1]Gingival recession may effect in aesthetic problem and accentuated hypersensitivity dentin because of the exposed root surface, it can be observed by an appearance of a long clinical tooth when compared with adjacent teeth.[3] Exposed root surface can also causes cervical abrasion and erosion due to exposure from the environment.[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, prominent root surface. In addition, high frenum's attachment and coronal frenulum, and hereditary factors also tent to lead gingival recession.[1,3]

Physiological factors can occur due to orthodontic tooth movement, both lingual and labial, which tends to lead dehiscence. Increasing age is also one of the causes physiological gingival recession.[2]Pathological factors can occur because of gingival

inflammation that makes bad oral hygiene, occlusal trauma, tooth brush trauma, smoking,excessive alcohol consumption , the edge of restoration is not perfect, hormonal factors, and due to procedures periodontal surgery.[2]

There are several theories about the classification of gingival recession,but what is commonly used is Miller's theory. According to Miller, gingival recession is divided into 4 classes.[1]

- Class I: Marginal tissue recession, which does not extend to the mucogingival junction (MGJ). There is no periodontal loss (bone or soft tissue) in the interdental area, and 100% root coverage can be anticipated
- Class II: Marginal tissue recession, which extends to or beyond the MGJ. There is no periodontal loss (bone or soft tissue) in the interdental area, and 100% root coverage can be anticipated
- Class III: Marginal tissue recession, which extends to or beyond the MGJ. Bone or soft tissue loss in the interdental area is present or there is a malpositioning of the teeth, which prevents the attempting of 100% of root coverage. Partial root coverage can be anticipated. The amount of root coverage can be determined presurgically using a periodontal probe
- Class IV: Marginal tissue recession, which extends to or beyond the MGJ. The bone or soft tissue loss in the interdental area and/or malpositioning of teeth is so severe that root coverage cannot be anticipated.

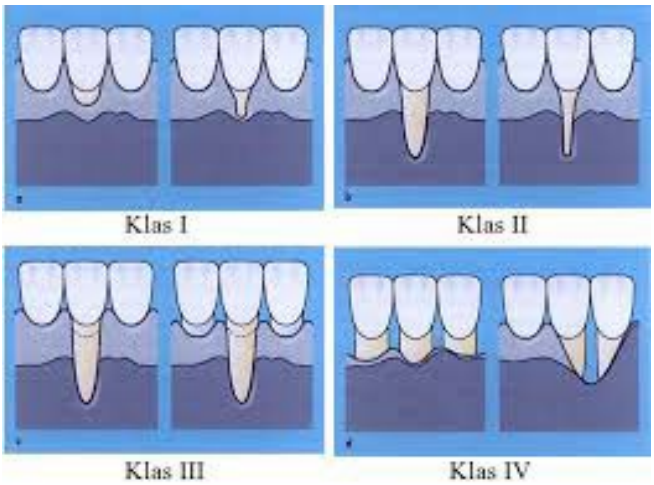

Figure 1: Miller classification

Gingival recession can be treated with surgery and non-surgery based on 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 mucongival surgery. But, if the gingival recession is classified into class III and IV, the treatment will be non-surgery such as make a restoration with the same colour as gingiva in the open root surface and removable artificial gingiva. Patients who have several teeth with recession may have unaesthetic appearance because of black triangles. In these cases, where surgical procedure is not appropriate, removable artificial gingival may be used.[4,10]

Gingival recession can cause several clinical consequences, namely: 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, can even lead to pulp hyperaemia.[3]

According to Pradhan [3] gingival recession treatments 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 is contraindications to surgery.

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

Figure 2 : Gingival Mask

DISCUSSION

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

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 that, 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 artificial gingiva 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.[2]

Making artificial gingiva is said to be quite easy, because the material used to make artificial gingiva 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 artificial gingiva can be flexible so that it is easily applied. Artificial gingiva can be easily placed and removed from the proximal gap without causing pain. This flexural

property also makes the artificial gingival 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 artificial gingiva applied to the regions of teeth experiencing gingival recession can reduce dentin 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 dentin hypersensitive.

The disadvantage of this technique is that it cannot cover the entire root surface. Artificial gingiva 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 artificial gingiva.

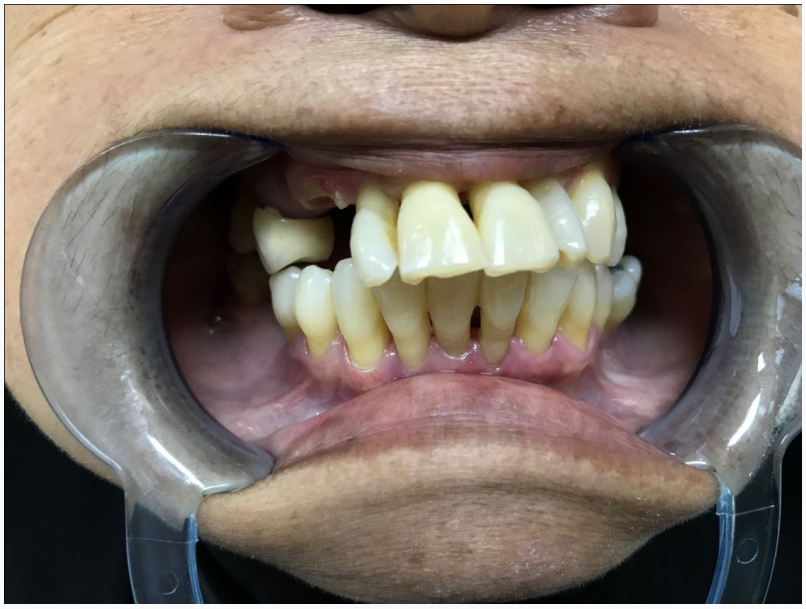

Figure 3: Before using a gingival mask

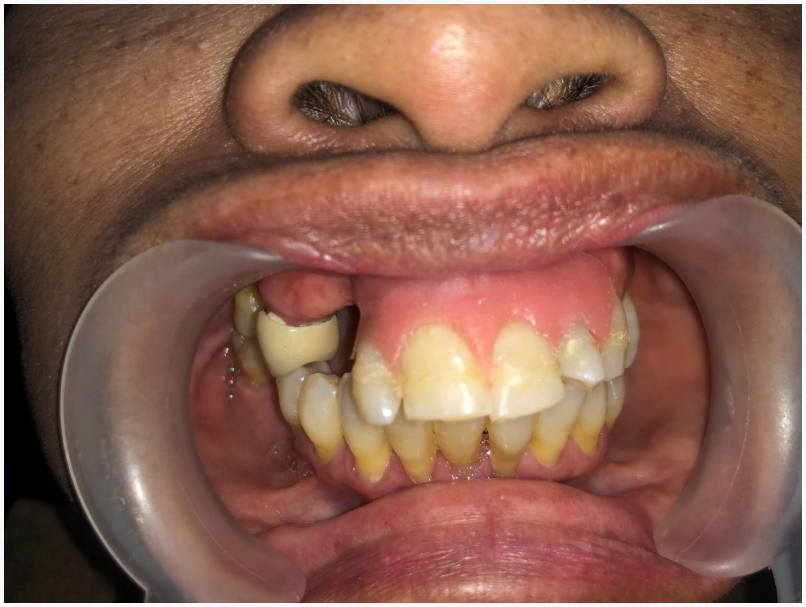

Figure 4: After Using a gingival mask

CONCLUSSION

Removable artificial gingiva is a good treatment option in case of advanced gingival recession and achieving esthetic results and patient satisfaction. Gingival mask can also eliminate hypersensitive dentin and flexible so that it is easily applied.

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REFERENCES

1. Krismariono A. Artificial Gingiva As Alternative Treatment For Gingival Recession. Periodontic J 2009; 1(1): 1-1.

2. Patil Suvarna, Viviek.P, Nilima.R. Gingival Veneer: Mask The Unesthetic. Journal of Indian Society of Periodontology.2011.15(3):284-287.

3. Pradhan Shaili, Giri M. Esthetic Management Of Gingival recession: Use of Gingival Veneer. Journal of Nepal Dental Association.2013.Vol 13(2).

4. Patel M, Nixon PJ, Chan MF. Gingival Recession Part 1. Aetiology And Non-Surgical Management. British Dental Journal. 2011 Sep.,211(6):251-4. PubMed PMID:21941318.EPub2011/09/04.eng.

5. Gopakumar A, Sood B. Conservative Management Of gingival Recession: The Gingival Veneer. Journal Of Esthetic And Restorative Dentistry: Official Publication Of The America Academy Of Esthetic Dentistry [etal].2012 Dec;24(6):385-93.PubMed PMID:23205684.Epub 2012/12/05.eng.

6. L' Estrange PR, Strahan JD. The Wearing Of Acrylic Periodontal Veneers. British Dental Journal. 1970 Feb 17;128(4):193-4. PubMed PMID:5270268. Epub1970/02/17.eng.

7. Dr. Virginia V, Dr. Rahamathulla K. Gingival Mask:Restoring The Lost Smile. IOSR Journal Of Dental And Medical Sciences. Volume 5, Issue 3 (Mar.- Apr. 2013), PP 20-22.

8. Greene PR.: The flexible gingival mask: an esthetic solution in periodontal practice. Brit Dent Jour. 1998; 11(184): 536-40.

9. Nair C. and Dange SP.: Aesthetic management of gingival recession – A flexible gingival mask. Jour of Indian Prosth Society. 2003; 3(1):34-35.

10. Ellis SG, Sharma P, Harris IR. Case report: Aesthetic management of a localised periodontal defect with a gingival veneer prosthesis. Eur J Prosthodont Restor Dent 2000;8:23-6.