The Evaluation of Medical Records of Gingival Recession in Chronic Periodontitis Patient

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ABSTRACT

Background: Periodontitis is inflammation of the gingiva accompanied by alveolar bone loss, which causes loss of attachment. Local factors that can exacerbate periodontitis are gingival recession, a condition where the gingival margin is pulled away from the cemento-enamel junction (CEJ), resulting in the opening of the root surface that was initially closed. Objective: This study aimed to determine the distribution of gingival recession features in chronic periodontitis patients at the Universitas Trisakti Dental Hospital, Indonesia. Material and Methods: This type of research is an observational descriptive with a cross-sectional research design with periodic medical record samples from January 2013 to December 2017. Data obtained from medical records were recorded and grouped in tables and then analyzed manually. Results: Of the 583 periodontal patients, there were 311 patients with gingival recession consisting of 11 maxillary gingival recession patients, 21 mandibular gingival recession patients with the majority of mild classification of gingival recession (<3.0 mm from the exposed root surface) and 279 patients suffering from in both jaws with the majority classification of severe gingival recession (> 4.0 mm exposed root surface). Conclusion: Gingival recession in patients with chronic periodontitis is more common in the mandible than the maxilla. Patients with chronic periodontitis mostly experience gingival recession of more than 1 tooth in the upper and lower jaw with severe classification (> 4 mm).

Keywords: Chronic periodontitis, gingival recession, periodontal disease

INTRODUCTION

The 2013 Basic Health Research (Riskesdas) states that the national prevalence of dental and oral health problems is 25.9%. Meanwhile, only 8.1% received care and treatment from dental medical personnel in 2013. Based on the 2010 Household Health Survey - National Health Survey, periodontal disease ranks second with 42.8% of Indonesia’s population.¹ A survey by the National
Institute of Dental Research (NIDR) in Indonesia also said the same thing. Periodontal disease ranks second as a significant societal problem, with a percentage of 70%. The prevalence of periodontal disease continues to increase with age. The results of epidemiological studies show that periodontal disease, one of which is chronic periodontitis, is a major global health problem affecting most of the adult population. This does not rule out the possibility that it can affect children depending on oral hygiene and the level of plaque accumulation which is the etiology of chronic periodontitis. Chronic periodontitis also has local predisposing factors and systemic factors such as diabetes mellitus, HIV infection, stress, smoking, nutritional deficiencies, drug complications, weak immunity, and endocrine gland disorders. One of the local factors that can exacerbate periodontitis is gingival recession.

Gingival recession is a condition in which the position of the marginal gingiva is away from the cemento-enamel junction (CEJ) so that the root surface that was initially closed becomes exposed. The etiology of gingival recession can be caused by several factors, namely anatomy, physiology, and pathology. The most common gingival recession is a manifestation of inflammation resulting from the accumulation of plaque and calculus on the tooth surface, causing tissue damage resulting in gingival recession. Gingival recession not only causes damage to the gingiva but can accompany damage to the cementum and alveolar bone. So that it can cause loss of cementum and alveolar bone.

The etiological factors of gingival recession associated with periodontal disease can affect all tooth surfaces and tend to be irreversible. Chronic periodontitis accompanied by gingival recession is a disease associated with plaque and calculus. Periodontal tissue examination aims to determine the condition of the periodontium. The results of the examination of the periodontal tissue, a patient's medical record is required which contains information in the form of anamnesis from the patient, including patient identity, patient's chief complaint, general health history, dental health history, and history of treatment that has been carried out as well as clinical examination of the teeth and periodontium tissue.

One of the clinical features of chronic periodontitis is gingival recession. Chronic periodontitis accompanied by gingival recession can also reduce a person's standard of quality of life. Disturbances in aesthetics are most visible in this case. These aesthetic consequences are generally associated with poor job prospects because sufferers become shy and lack self-confidence, which can hinder them from socializing. This study aimed to determine the distribution of gingival recession features in chronic periodontitis patients at the Dental Hospital Universitas Trisakti, Indonesia.

### 2. Material and Methods

This type of research is a descriptive observational study with a cross-sectional design. The research was conducted at the Department of Periodontology Universitas Trisakti Dental Hospital. The population in this study were all periodontal medical records at the Department of Periodontology, Universitas Trisakti Dental Hospital for the period January 2013 - December 2017. The samples in this study were based on predetermined inclusion criteria, namely medical records complete with a chronic and aggravated periodontitis diagnosis of gingival recession. Gingival recession will be classified as (1) mild gingival recession when <3 mm, roots are visible, (2) moderate, when roots are visible 3-4 mm, (3) severe, when roots are visible > 4 mm.

### 3. Result and Discussion

In the study conducted in September-November 2018, 583 periodontal medical records were stored at the Department of Periodontology, Faculty of Dentistry, Universitas Trisakti, Indonesia. From these medical records, a sample that met the inclusion criteria was 311 medical records with a diagnosis of chronic periodontitis accompanied by gingival recession. Based on the medical records, patient data were obtained in the form of year, sex, diagnosis, and gingival recession. The distribution of the number of medical records that match the inclusion criteria can be seen in Table 1. Based on the respondent data from the medical records collected, the majority were female, 177 subjects (56.91%) and 134 female subjects (43.09%). The distribution of the number of medical records that match the inclusion criteria can be seen in Table 1. Table 1 shows that the most medical records were obtained in 2016 (31.51%) and the least in 2017 (6.43%).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Medical Records</th>
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<tr>
<td>2016</td>
<td>184 (31.51%)</td>
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<tr>
<td>2017</td>
<td>38 (6.43%)</td>
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<td>2018</td>
<td>161 (27.62%)</td>
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Table 1. Frequency distribution of medical records that meet the inclusion criteria.
Several possibilities can cause the gingival recession, such as the wrong way of brushing teeth, malposition, crowding, and use of orthodontic devices. This tooth brushing factor is related to the development of gingival recession itself, namely from the duration of brushing teeth, the strength when brushing teeth, the frequency of changing toothbrushes, and the consistency of the bristles and the method used in brushing teeth so that it can cause shifting of the gingiva in an apical direction. Malposition alone does not cause periodontal disease, but a lack of understanding of plaque control and awareness to maintain...
oral hygiene can result in plaque accumulation. If plaque is not eliminated, it can lead to gingivitis, the most common periodontal problem.

Although the primary etiology of periodontal disease is bacterial plaque, crowding is a functional etiological factor of periodontal disease because it makes it difficult to maintain oral hygiene, so plaque accumulates and develops, which causes pathological periodontal changes. Lack of public knowledge and concern about maintaining healthy teeth and gums. The mouth can also be a predisposing factor for periodontal problems. Knowledge is an essential component that influences a person's attitude and behavior. Educational factors influence knowledge. The higher a person's education, the more comprehensive his knowledge. A person's education can affect dental and oral hygiene levels. Someone with low education has less knowledge of maintaining oral hygiene. Conversely, someone with higher education will pay more attention to the condition of his mouth to keep the cleanliness of his teeth and mouth.

Properly preventing gingival recession is by conducting communication, information, and education (IEC). Patients can be informed to eliminate bad habits that can cause the gingival recession, such as brushing the wrong teeth, hard bristles, and the tradition of scraping the gingiva with a toothpick. After the primary etiology is resolved, instruct the patient to maintain oral hygiene monitored by the treating dentist. Scaling and root planing can also be carried out to eliminate plaque and calculus. Meanwhile, surgical procedures, including various mucogingival surgeries, are the final choice for patients with severe gingival recession and broad sensitivity. Ultimately, the goal is to carry out surgical and non-surgical treatment to eliminate patient complaints aesthetically, functionally, and if there are complaints of pain.

4. Conclusion

Gingival recession in patients with chronic periodontitis is more commonly found in the mandibular teeth than the maxillary teeth. Patients with chronic periodontitis mostly experience gingival recession of more than one tooth in the upper and lower jaw with severe classification (> 4 mm).

5. Acknowledgments

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6. References


Authors' Contribution

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