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GINGIVECTOMY AS A METHOD OF PREPARATION FOR ORTHOPEDIC TREATMENT IN PATIENTS WITH BOTTOM DENTAL CROWN OF ABUTMENT TEETH

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***Sergej Veremeenko*[1], *Yuliya Makedonova*✉, *Oksana Kurkina*[1], *Vladimir Shkarin*[2]**

[1] *Dentistry Institute;*
[2] *Department of Public Health and Health Care of Postgraduate Faculty, Volgograd State Medical University, Volgograd, Russia*

✉ *yuamakedonova@volgmed.ru*

ABSTRACT — The problem of prosthetics for patients with a bottom dental crown of abutment teeth is relevant for orthopedic dentists. In this case, it is advisable to make a special preparation of the oral cavity before prosthetics. One of these methods is gingivectomy. GOAL. In this paper, a comparative analysis of the clinical parameters of the dentogingival complex before and after gingivectomy was performed. MATERIALS AND METHODS. The oral hygiene index, PSR, PCR, Schiller–Pisarev test, and PMA were determined. The study involved 26 patients at a young age, according to the WHO (World Health Organization) classification. Clinical indicators were evaluated before gingivotomy and 21 days later. RESULTS. At all stages of observation, the positive dynamics of the healing of the dentogingival complex was marked. There was a positive prognostic value of gingivotomy before prosthetics. However, no complications or side effects were detected. CONCLUSION. The necessity of gingivectomy for patients with a bottom dental crown of abutment teeth has been proved and justified.

KEYWORDS — gingivectomy, prosthetics, bottom dental crown, dentogingival complex.

INTRODUCTION

Dentofacial system is one of the top human body systems in terms of the arrangement complexity, anatomical structure and the variety of functions performed. At the same time, dentofacial system, taken as the main craniofacial element, is the initial segment of the digestive and respiratory systems, also being responsible for the interconnection of the speech-related, facial and aesthetic functions [1–10]. Bottom clinical crowns are a common phenomenon in the clinic of orthopedic dentistry. This fact causes a lot of inconvenience, and sometimes it is a relative contraindication to prosthetics, because for adequate fixation of fixed orthopedic structures, a sufficient height of the stump of the tooth is necessary to ensure the longest possible path of the prosthesis [11]. The so-called contact area is necessary for the mechanical retention of the structure. For prosthetics of patients with this problem, it is necessary to resort to a number of methods aimed at improving the conditions that affect the fixation of the future prosthesis. There are many methods to improve the fixation conditions. They can be divided into orthopedic, orthodontic, and surgical. Among the most common are gingival retraction, gingivectomy and gingivoplasty.

The purpose of this work is to conduct a comparative analysis of the clinical indicators of the dentogingival complex for patients with low height of the clinical crown of the tooth when using gingivectomy before orthopedic treatment.

MATERIALS AND METHODS

To achieve this goal, 26 patients with low clinical crown of abutment teeth who needed an orthopedic treatment were examined and treated. The study was conducted with patients in the age group of 25–44 years (young age according to WHO). The clinical study included anamnesis collection and clinical examination according to the *gold standard* principle.

Special attention was paid to measuring the dentogingival complex to the top of the alveolar ridge using a graduated probe to determine the position of the alveolar ridge and the biological width. The condition of periodontal tissues was assessed using periodontal indices, the risks of further progression of periodontitis (at the presence), and patients with risks were identified.

According to the *gold standard* principle, negative or positive prognostic value and sensitivity were evaluated based on the probability that an existing disease scores positive points. We took into account the patient's psycho emotional state, shifts in which were the criterion for exclusion from the study [12]. The results of treatment were taken into account for 21 days of treatment. Processing and analysis of the received information will be performed using the

Microsoft Windows 10 operating system. Statistical processing of the obtained results is performed in the program Statistica 13.0. Statistical analysis was performed by variation statistics with the definition of the average value (M), its average error (m±m) evaluation of reliability of differences between groups using the student's criterion (t) when $p< 0.01$, $t\geq 2$.

RESULTS

The first goal of the study was to detect the early symptoms of periodontal tissue inflammation. In addition to achieving this goal, we also tried to improve the gingival contour and bone architecture in order to facilitate the control of plaque, which is an additional factor that leads to gum inflammation. Functional therapy, selective polishing, improvement of function, morphology and aesthetics, replacement of missing teeth and restoration of anatomical shape were also performed.

Before the gingivectomy, the oral hygiene index was determined. The simplified plaque index PCR was 67.8±2.3%, which corresponds to poor oral hygiene. In this case, the Schiller–Pisarev sample is positive, the PMA is 32.2±2.4% (light and medium severity). The average PSR was 2.1±0.2 points (it is recommended to make professional oral hygiene, removal of supra-and subgingival tooth stone). After removing dental deposits, patients were warned to observe daily oral hygiene, which will prevent the development of complications and accelerate the regeneration of the wound surface. Gingivectomy of the gums consisted of standard stages. After 21 days, a clinical evaluation of the effectiveness of treatment was performed based on the determination of the hygienic and periodontal indices. Thus, the PSR was 24.3±1.2%, provided that the patients used a soft toothbrush. The Schiller–Pisarev test is negative, so the RMA was not determined. Periodontal screening was 0.7±0.1 points.

DISCUSSION

Thus, when performing gingivectomy as a preparatory stage before orthopedic treatment, no complications or side effects were detected for patients with a bottom dental crown of abutment teeth. There were no symptoms of suppuration of the wound and septic phenomena, as well as the development of gingivitis, periodontitis. It's worth mentioning, that in the future, systematic and thorough oral care is required. This will not only avoid relapse, but also prevent the development of inflammatory and destructive complications, which justifies the need to study this issue in subsequent studies.

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