

**EVALUATION OF THE EFFECTIVENESS OF PREVENTION OF  
INFLAMMATORY PERIODONTAL DISEASES IN PATIENTS UNDERGOING  
ORTHODONTIC TREATMENT**

<sup>1</sup>Muzaffarov Of Behzadian Yunusovich, <sup>2</sup>Saidov Akbar Ahadovich  
Bukhara state medical Institute, Uzbekistan<sup>1,2</sup>

**RELEVANCE**

Today, more and more people need and are undergoing orthodontic treatment. Unfortunately, not all patients have the necessary skills to maintain a high level of oral hygiene, and they are not sufficiently aware of the need for constant care of the oral cavity. Also, it is worth noting that many fundamental aspects of prevention in the process of orthodontic treatment are not fully resolved. Arches, braces, and rings fixed on the teeth significantly complicate oral hygiene, which in 43.5% of cases leads to damage to hard tissues, mainly surfaces immune to caries, and in 95.5% to periodontal diseases. This is due to a decrease in the level of hygiene caused by a lack of motivation and lack of necessary skills, as well as a decrease in local immunity caused by changes in microcirculation against the background of loads on periodontal tissues created by orthodontic structures.

**PURPOSE OF RESEARCH**

To develop a set of hygiene measures for effective prevention of inflammatory periodontal diseases in people undergoing orthodontic treatment.

**MATERIALS AND METHODS**

We examined 45 patients with malocclusion at the age of 14-88 years who are undergoing orthodontic treatment. The main group of 15 people was assigned a set of preventive measures, including the use of Elgidium toothpaste, Eludril rinse aid, Parodium gum gel, and professional oral hygiene. Educational work was also actively carried out with these patients, including controlled brushing of teeth and training in individual oral hygiene. The control group consisted of 15 people. All patients on the first day of the study, after 2 weeks, a month and three months, were examined the oral cavity, assessed the green-Vermillion index, PMA, CPITN.

**RESULTS**

When analyzing the data obtained in the main group, after 2 weeks the microcirculation indicators improved by 16.8%, after a month by 25.3%, after 3 months the result remained stable and had positive trends. The PMA and CPITN indices declined by 94.2% in 2 weeks and remained at this level for the next 3 months. The green-Vermilion index decreased to an average of  $0.3 \pm 0.1$  after 2 weeks and remained in the same range until the end of the study. In the control group, microcirculation worsened by 4.3% after 2 weeks, by 5.8% after a month, and by 6.1% after 3 months. The PMA index increased by 13.6% in 2 weeks, 23.8% in a month, and 25.8% in three months. The CPITN index. After 2 weeks, they increased by 24.3% and maintained an upward trend throughout the survey period. The green-Vermilion index in the control group increased to  $2.3 \pm 0.2$  after 2 weeks and maintained an upward trend for 3 months. Results. When analyzing the data obtained in the main group, after 2 weeks the microcirculation indicators improved by 16.8%, after a month by 25.3%, after 3 months the result remained stable and had positive trends. The PMA and CPITN indices declined by 94.2% in 2 weeks and remained at this level for the next 3 months. The green-Vermilion index decreased to an average of  $0.3 \pm 0.1$  after 2 weeks and remained in the same range until the end of the study. In the control group, microcirculation worsened by 4.3% after 2 weeks, by 5.8% after a month, and by 6.1% after 3 months. The PMA index increased by 13.6% in 2 weeks, 23.8% in a month, and 25.8% in three months. The CPITN index. After 2 weeks, they

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Hygienic status of the oral cavity and periodontal tissues before orthodontic treatment in children with malocclusion and temporomandibular joint dysfunction

The data presented in this table show that the initial hygienic status of children assigned for orthodontic treatment in children with malocclusion and temporomandibular joint dysfunction was "unsatisfactory", and there were no statistically significant differences in quantitative and qualitative indicators. In children with dental abnormalities and temporomandibular joint dysfunction, the value of the PMA index (papilla-margin-alveolar process) in periodontal tissue and inflammatory changes in the Schiller-Pisarev test differ more clearly and reliably with the corresponding data of a practically healthy group. Symptoms of bleeding in the main group of children were observed in 29 people in 65% of cases. Dental stones were detected in 73.3% of the main group and 46.6% of the control group. In the control group, gum Tartar was detected in 8 children, which was 53.3%. Children in the main group also had to undergo professional oral hygiene, which, according to the CPITN index, included studying hygiene skills, motivation, and control of "professional" dental cleaning. According to the CPITN index, the need for these measures in the main group was 82.2%, in the control group - 60%. The dynamics of changes in hygiene indicators that reflect the state of periodontal tissues was determined as a criterion for evaluating orthodontic treatment.

The numerical data in the table show a tendency to increase in hygiene indicators and periodontal indicators in all patients. Symptoms of gingivitis were reliably diagnosed ( $P < 0.01$ ) compared to the data of the control group and the initial group with increased indications of PMA and the Schiller-Pisarev periodontal test. There were no significant differences in the results of the Schiller-Pisarev test in the main group and in the healthy group of children with dental abnormalities and temporomandibular joint dysfunction. In the main group of children, signs of bleeding gums were found in 24.4% of cases. Gum stones were found in 15.5% of children in the main group.

## **CONCLUSION**

Professional oral hygiene was carried out in all groups of children: motivation using the program "Clear dentistry", training in individual oral hygiene, professional teeth cleaning using instrumental Tartar removal, selection of hygiene products and methods. The presented data substantiate the need for preventive measures before the start of active treatment using orthodontic devices and during treatment.

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