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INFLUENCE OF PROFESSIONAL PHYSICAL LOADS ON THE FUNCTIONAL INDICATORS OF DENTAL STATUS

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Annotation. The article presents the results of the assessment of occlusal-articulation parameters of the dentofacial system of athletes. During the study, the presence of a “chewing apparatus dysfunction” among athletes in 25.5% was found. According to T-scan III, occlusion disorders are characteristic of all athletes and manifest themselves in premature and super contacts when teeth are closed. The obtained results dictate the need for the development of new therapeutic and preventive methods of correction in athletes.

Key words:occlusion, athletes, dental status.

Introduction

According to the WHO recommendation, maintaining oral health is one of the leading aspects of the overall health and well-being of society [3].

Regular exercise is essential for health promotion. But at the same time, professional athletes are characterized by high physical and emotional stress during training and sporting events. This fact affects the state of the maxillofacial muscles, фthe temporomandibular joint, articulation and occlusion, the condition of the hard tissues of the teeth and periodontal. Taking into account the possible influence of the dental status on the general state of health,it seems relevant to assess the dental status of this category of persons [1, 2].

The aim of the study is to assess changes in occlusive-articulation parameters of the dentition of athletes.

Materials and methods

The study of dental status was conducted in 2016-2017 on the basis of a multidisciplinary dental clinic of USMU. During this period, 52 athletes of different levels of fitness were engaged in strength sports in different periods of the training

cycle (84% were men and 16% were women), aged 18–30 years old (average age was 28.6 ± 5.26). The average duration of professional sports is 9.7 ± 4.2 years. The control group consisted of 50 students of USMU engaged in amateur sports. The gender-age composition of the control group is similar in the studied group.

All study participants underwent a comprehensive dental examination. It included the collection of anamnesis (definition of complaints, anamnesis of life, anamnesis of the detected disease), external examination, examination of the oral cavity, detection of pathology of hard dental tissues, bite anomalies.

Functional diagnostics of the temporomandibular joint was carried out using the Hamburg Testing (Alhers MO, Jakstar HA, 2000), a computerized study of occlusion was performed using the T-scan III device, which determines and analyzes the force of compression of teeth, topography of occlusal contacts and the dynamics of changes in these parameters.

Data processing was carried out on a personal computer using Microsoft Excel, Statgraff-2008, Statistica 6.0 with the calculation of standard indicators of variation statistics.

Results

Dental examination revealed that only 5.5% of the main group and 15.5% of the control group are healthy.

Violation of oral hygiene is determined equally among the main and control groups: poor oral hygiene was found in the main group - 44%, OHI-S = 2.12 ± 0.31, control - 42%, OHI-S = 1, 85 ± 0.13.

It has been established that in the main group the periodontal inflammation intensity is more pronounced. Thus, the PMA index for athletes is 34.78 ± 2.46%, in the control group - 24.45 ± 6.11%.

In the study of the temporomandibular joint, it was found that “the functional rate” is found only in 19.5% of the main group and 65% of the control group. The “risk group” among athletes was 55%, among students 29.5%. "Dysfunction of the chewing apparatus" in the main group was detected in 25.5%, in the control group 5.5%. In athletes, among the signs of a violation of the temporomandibular joint, work of the muscles of the maxillofacial area, it is necessary to highlight: asymmetric opening of the mouth - 57%, presence of intra-articular noise - 45%, pain on palpation of the masticatory muscles - 69%, trauma of eccentric occlusion of the dentition - 43 %.

According to T-scan III, occlusion disorders are characteristic of all athletes and for most patients in the comparison group (84.0%) (Fig. 1). This is manifested in premature and super contacts when closing teeth.

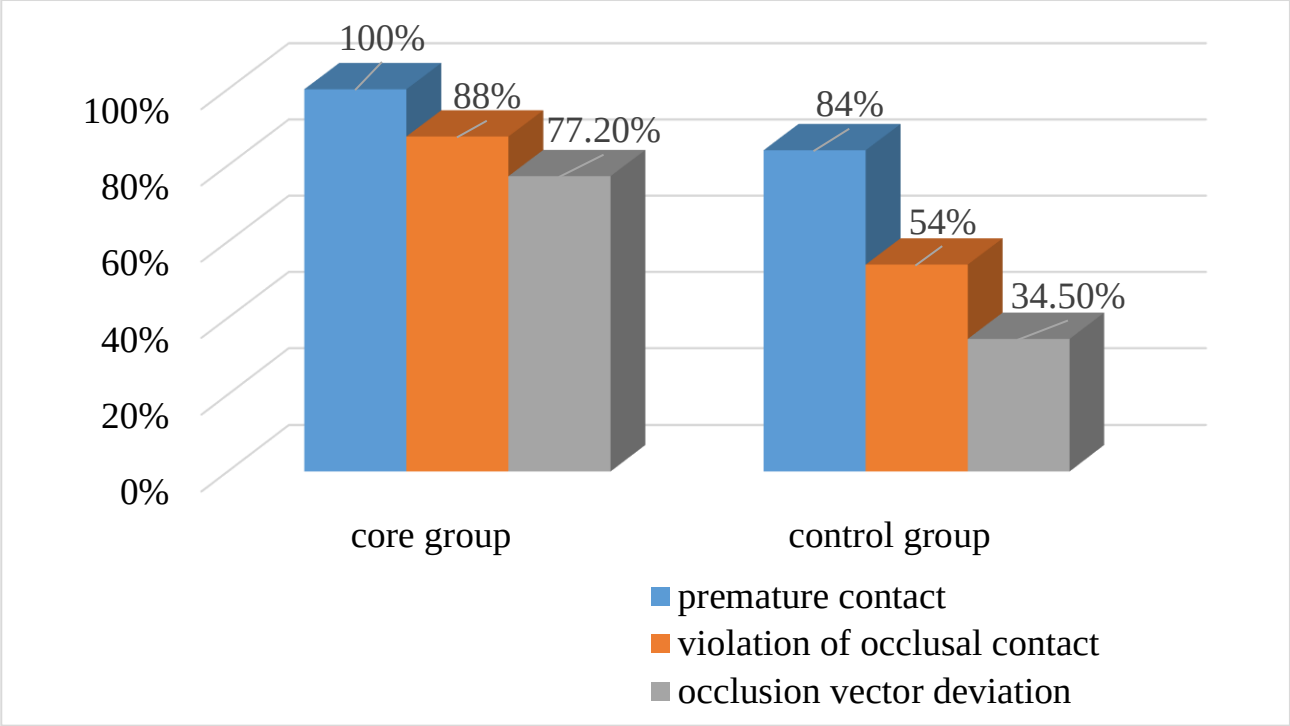

Fig.1. The results of the study of occlusal relationships (T-scan) in athletes and in the control group (%).

In 88% of athletes and 54.0% in the control group was determined by the deviation of the vector of occlusal forces from the midline. It should be noted that the optimal vector trajectory - from the front teeth to the side teeth - was maintained.

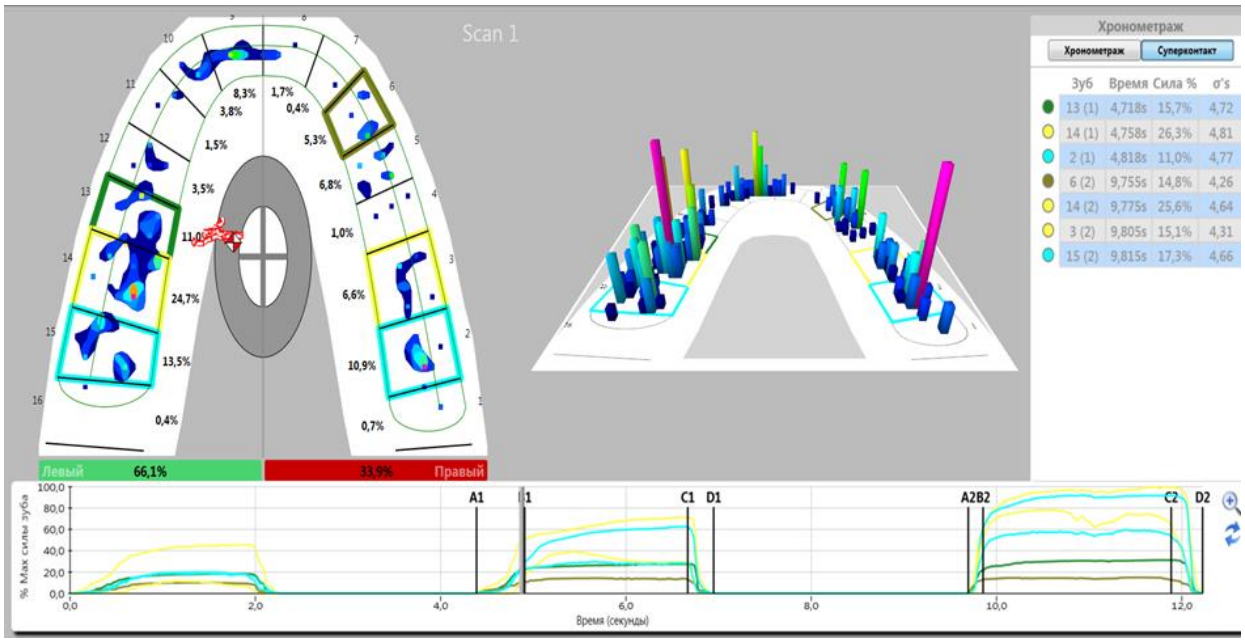

Fig.2. Image of T-Scan III with indications of the time and strength of the athlete's occlusal contacts.

There was a deviation in the occlusal balance of the right and left sides of the dentition in 77.2% of athletes and 34.5% in the control group. There is a lengthening of the time to achieve multiple contacts in the main group by 63% (Fig. 2).

Conclusion:

1. As a result of the study, it was established that 75% of athletes had dental diseases that lead to a change in the state of general health, and following a decline in the quality of life and sports performance.

2. Examination of athletes on the program "Hamburg Testing" showed that "dysfunction of the chewing apparatus" in the group of athletes is found 4.6 times more often.

3. According to T-scan III, occlusion disorders are characteristic of all athletes in 100% of cases.

4. Pronounced disorders in the occlusive-articulation parameters of the dentition of athletes require the development of new methods of treatment and prophylactic correction and a differential approach to the provision of dental care to this population.

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FREQUENCY OF THE ORBITAL WALLS FRACTURES

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