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METHODS OF TREATMENT OF DENTAL ANOMALIES AND DEFORMITIES IN CHILDREN WITH PATHOLOGY OF THE MUSCULOSKELETAL SYSTEM

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Relevance. Improving the treatment of maxillary anomalies in children with musculoskeletal disorders requires a comprehensive approach: simultaneous orthopedic bite correction (braces, mouthguards), speech therapy, massage and physiotherapy aimed at improving posture and muscle tone, since posture and bite disorders are interrelated. Modern diagnostic methods (CT, MRI) are used, and treatment should be individualized, taking into account both dental and concomitant OCD disorders in order to achieve a lasting result. Currently, the prevalence of dental anomalies in children and adolescents is quite high - according to domestic and foreign authors, it ranges from 50% to 80%, and ranks second among dental diseases after caries. Among the dental anomalies, there are such disorders as anomalies of individual teeth, and malocclusion (distal, mesial, cross, open, deep), as well as anomalies in the shape and size of dental arches. Among the causes affecting the development of dental anomalies, the following are traditionally distinguished: hereditary factors, bad habits, myofunctional disorders, the influence of concomitant dental and general somatic diseases, including disorders of the musculoskeletal system. Disorders of the musculoskeletal system also have a high prevalence among the children's population, deformities of the spine and feet are especially common. The most important link between the maxillary system and the musculoskeletal system is the temporomandibular joint, which, in the presence of maxillary anomalies and disorders of the musculoskeletal system, experiences increased stress, which subsequently leads to the development of dysfunction syndrome. According to the World Health Organization, more than 40% of people aged 20 to 50 suffer from temporomandibular joint dysfunction syndrome, and in children and adolescents this figure ranges from 14% to 20%. The concept of the mutual influence of posture and bite was first put forward at the beginning of the 20th century by Pierre Robert (1902), who noted that children with glossoptosis have X-shaped legs, curved posture and typical signs of distal bite. Over the following time, data accumulated confirming the mutual influence of ASF anomalies and postural disorders. It has been suggested that occlusion disorders can alter posture in the frontal and sagittal planes and ultimately alter body weight distribution. The curvature of posture causes a violation of the position of the head of the temporomandibular joint, pain and dysfunction in the joint, leading to the development of malocclusion.

With postural disorders (head displacement, increased kyphosis of the thoracic region and lordosis of the lumbar region, scoliosis) in children and adolescents, the formation of occlusion anomalies from 70 to 80% is noted. On the other hand, with occlusion anomalies, the center of gravity of the head is often located in front of the vertical axis, which leads to a change in posture and an increase in the load on the neck muscles. In children with malocclusion, the head is tilted forward, the chest is sunken, its anteroposterior size decreases, the angle of inclination of the ribs changes, the shoulder blades protrude, the abdomen protrudes, the shins are curved, and the feet are flat. According to a large number of scientific studies, there is a close relationship between general health and the health of the dental system. Any postural disorders lead to compensatory changes throughout the body, affecting the maxillofacial region as well. Literature data indicate that the problem of the relationship between dental anomalies and postural disorders continues to attract the attention of specialists at the present time. However, the systematization of the obtained results is hampered by the variety of approaches to the study of this problem. There are especially few scientific studies in which orthodontic treatment is

carried out taking into account disorders of the musculoskeletal system and there are no programs of comprehensive therapeutic and preventive measures to correct dental anomalies in children with disorders of the musculoskeletal system.

Integration of specialists: Orthodontist, orthopedist, speech therapist, neurologist, physiotherapist work in a team. • Early comprehensive diagnosis: Identification of the relationship between impaired posture, muscle imbalance and malocclusion in the early stages. • Multimodal treatment: o Orthodontic: The use of removable and non-removable bite correction devices. o Speech therapy: Correction of improper swallowing, speech, and breathing. Orthopedic / Physiotherapy: Exercises to strengthen the muscles of the back, neck, posture correction (massage, physical therapy). • Individual orthopedic designs: Development of removable dentures and mouthguards that take into account the developmental features of the maxillofacial region and the ODE of the child. • Prevention: Consideration of risk factors during pregnancy and early childhood to prevent the development of ASF. Why an integrated approach is important • Relationship: Problems with the spine (impaired posture) often cause or worsen dental anomalies, and conversely, malocclusion can affect posture. • Durability: Correcting only the bite without working on posture often has a temporary effect, as the muscles return the jaw to its original position. Modern methods of treatment • Diagnostics: 3D images (CT), MRI for detailed assessment. • Treatment: Aligners, braces, functional devices, myohymnastics, myofunctional therapy.

Conclusion. In connection with the above, the study of the prevalence and severity of dental anomalies, disorders of the musculoskeletal system, assessment of the relationship between disorders of the musculoskeletal system and anomalies of the dental system in children and adolescents, as well as their comprehensive treatment and prevention are relevant and justified. Thus, the key to success is not just correcting teeth, but the harmonious development of the child's entire body.

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