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Early Diagnosis and Treatment of Myofunctional Disorders of Distal Occlusion

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Relevance of the study. Pathological changes in the muscles of the maxillofacial system, leading to dysfunction of breathing, chewing, swallowing, and speech formation. They are accompanied by deformity of the facial profile, the formation of malocclusion and posture, impaired sound reproduction, and TMJ pathology. Comprehensive diagnostics includes dental examination (photofixation, taking of casts, OPTG, TRG, electromyography), speech therapy, neurological examination, etc. Vestibular plates, trainers, myogymnastics, and massage are used for correction. • Reasons • Pathogenesis • Symptoms of myofunctional disorders • Complications • Diagnostics • Correction of myofunctional disorders • Prognosis and prevention • Prices for treatment Myofunctional disorders (MFN) are various orofacial dysfunctions caused by the myodynamic imbalance of the maxillofacial muscles. Currently, there is a high prevalence of MFN in the pediatric population: during the period of active growth of the child, they act as a premorbid background for the formation of facial deformities, dental anomalies and speech disorders in 70-80% of cases. The problem has interdisciplinary significance and is relevant for orthodontics, pediatrics, speech therapy, and orthopedics. The etiological prerequisites of myofunctional disorders and their consequences are well studied. Most of these factors can be noticed when watching a child and eliminated at an early age. The development of orofacial dysfunction leads to: • Pathological habits. Prolonged sucking of a pacifier or bottle (longer than 1.5 years) plays a leading role in the violation of the myodynamic balance of children at an early age. In preschool children, harmful myofunctional habits include sucking fingers, holding pencils and other objects in their mouths, biting their lower lip or cheeks, and interdental tongue insertion. • Feeding problems. The late appearance of solid food in the child's diet, which requires active chewing, has a negative impact on the development of the maxillofacial skeleton and musculature. Muscle dysfunction can also be caused by sluggish chewing in somatically impaired children, the habit of chewing food on one side or only with the front teeth. Prolonged feeding of children mainly with liquid or soft mashed food contributes to the preservation of the infantile type of swallowing and the formation of associated consequences. • Dental problems. The condition of the muscles of the CHLO is negatively affected by the presence of ankyloglossia (shortened hyoid ligament), bruxism, and adentia. The violation of chewing is facilitated by the late eruption of baby teeth or their early loss as a result of injuries, complicated caries, and pathological tooth erasure. Jaw fractures can lead to serious consequences in childhood. • ENT diseases. Diseases of the nasopharynx such as rhinopharyngitis, adenoids, and curvature of the nasal septum contribute to the formation of habitual oral breathing, weakening of the circular muscles of the mouth, and dysfunction of other facial muscles (masticatory, temporal). • Neurological diseases. Changes in muscle tone due to impaired innervation by the type of hypotension or spasticity are noted in children with various forms of cerebral palsy. In adults, MFN develops as a result of age-related changes and demyelinating pathologies. In each of the above cases, the mechanism of formation of myofunctional disorders has its own characteristics. In the first year of life, sucking is a physiological function that not only provides nutrition to the child, but also prepares the entire maxillary system for the formation of chewing function (normally, the transition to chewing occurs after the eruption of molars at about 14 months). The predominance of sucking over chewing at an older age or harmful oral habits lead to narrowing and asymmetry of the upper jaw, underdevelopment of the lower jaw, the formation of anomalies of the dentition and bite. The lack of active work of the facial and oral muscles is accompanied by an

imbalance of muscle forces that ensure the normal development of maxillary structures, the formation of oral praxis and vocal formation.

In the absence of proper chewing, there is no transition from an infantile type of swallowing (associated with sucking) to a somatic one. In this case, the child has a poorly developed lingual muscle, the tongue rests against the lower incisors, which helps to tilt the teeth forward. Oral respiration is accompanied by constant overstretching of the masticatory and temporal muscles, tension of the medial pterygoid muscle. This muscular imbalance contributes to abnormal skeletal development: mandibular retrognathia, TMJ overload, gothic palate formation, and postural disorders. Disorders of myofunctional balance have multiple negative effects on all functions of the maxillofacial region: chewing, swallowing, breathing, speech. A child with MFN has characteristic external signs. The face is asymmetrical, disproportionate, the chin is sloping, the cheekbones are not pronounced. The mouth is constantly open: the upper lip is lifted up, the lower jaw is in a slack position. There is crowding of teeth or, conversely, too large interdental gaps. During sleep, there is snoring, gnashing of teeth, increased salivation. When swallowing saliva and swallowing food, there is significant tension in the muscles of the chin and neck, and it is often necessary to wash down the chewed food with water. Chewing is accompanied by "slurping", smacking, clicking and crunching sensations in the temporomandibular joint. The child constantly breathes through his mouth, puts his tongue between his teeth when talking. There is a distortion of articulation of sounds: various types of sigmatism (interdental, labial-dental, interdental, lateral), rotationism, interdental pronunciation of other sounds. It is characterized by a violation of the strength and timbre of the voice, blurred diction, slurred and monotonous speech. Myofunctional disorders cause abnormal formation of the entire maxillofacial system. Occlusion pathologies can be represented by open, distal (prognathia), mesial (progenia), and crossbite. There is an underdevelopment and disproportion of the facial skeleton ("bird profile", "adenoid face"). TMJ dysfunction occurs. Various dental anomalies can lead to difficulties in installing dentures in adulthood. Distortions of anterior lingual sounds, phonemic perception disorders, and dysprosody are usually detected in the speech status. The extension and tilt of the head forward relative to the vertebral axis leads to stooping, the development of scoliosis, and deformity of the foot. Oral breathing causes a state of chronic hypoxia, which negatively affects school education, accompanied by rapid fatigue, impaired memory, and attention. Increased muscle tone in the neck-collar area causes circulatory disorders in this important area, provokes headaches. Teenagers with myofunctional disorders often feel dissatisfied with their own appearance and suffer from ridicule from their peers.

Myofunctional disorders require a comprehensive interdisciplinary approach to both diagnosis and correction. Pediatricians, orthodontists, pediatric neurologists and orthopedists, and myological therapists take part in the examination of the child. The main diagnostic directions: • Physical examination. During the examination, the general muscle tone (hypotension, hypertension), motor activity, the level of psychomotor development and its age-appropriate are assessed. Pay attention to the nature of breathing (oral, nasal, mixed). They find out the perinatal history, previous illnesses, and the presence of bad habits. • Myofunctional diagnostics. It includes examination and palpation of the muscles of the face and neck, fixation of initial data (profile, proportions of the face, position of the jaws and teeth, etc.) using intra- and extraoral images. In the future, casts are taken for the manufacture and calculation of diagnostic models, radiography (orthopantomogram, telerentgenogram). Electromyography of the facial muscles must be performed. • Diagnosis of speech function. During a speech therapy examination, a specialist examines the structure of the organs of articulation, the state of facial and articulatory motor skills, speech breathing, and sound reproduction. If necessary, he conducts tests for dysarthria and examines other components of speech. • Additional methods. When abnormalities caused by neurological disorders are detected, in-depth diagnostics are performed: EEG, MRI of the brain. Orthopedic examination is performed based on the results of computer optical topography, plantography, radiography of the spine and feet. Correctional work is carried out in stages with the participation of an interdisciplinary team of specialists. The main stages of work with myofunctional disorders include: 1. Osteopathy. Osteopathic sessions are conducted to restore myodynamic and postural balance. Massage of the neck and collar area, spine, and therapeutic

gymnastics may be indicated. 2. Orthodontic treatment. For the prevention of myofunctional disorders, it is recommended to wear a Stoppi plate from the age of 2. Children from the age of 3 are given various modifications of the Muppy vestibular plates. Preorthodontic trainers and positioners can be used to correct orofacial dysfunctions. 3. Methods of myofunctional speech therapy. In correctional work, articulatory gymnastics (with and without orthodontic plates), myogymnastics, speech therapy massage (for disorders of muscle tone), and breathing exercises are used. Special chewing machines are used to train the chewing muscles. After reaching the functional readiness of the muscles, correction of defective sound reproduction is carried out.

Conclusion. The earlier the correction of myofunctional disorders is started, the more effectively and faster it is possible to solve all related problems. Effective work is possible only with proper planning and close cooperation of pediatric dentists, speech therapists and other specialists with skills of myofunctional correction. For the prevention of MFN, it is important to follow the recommendations on rational feeding of children, timely introduce solid foods into the diet, monitor proper breathing, and wean the child from bad habits. It is important to carry out timely treatment of ENT pathology, and regularly visit a pediatric dentist. If speech defects occur, it is necessary to contact a speech therapist to find out their causes and eliminate them.

LITERATURE

1. Миофункциональные аспекты речевых проблем у детей/ Сатыго Е.А.// Логопед. – 2010. – №8.
2. Комплексный подход к выявлению и коррекции орофациальных дисфункций у детей/ под ред. Костиной Я.В. — 2012.
3. Коррекция миофункциональных нарушений у детей раннего возраста/ Косырева Т.Ф., Царева Т.Г., Сайдулгериева А.М.// Образовательный вестник «Сознание». – 2010.
4. Оценка гармоничности профиля лица у детей при различных видах миофункциональных нарушений/ Гвоздева Ю.В., Царькова О.А., Данилова М.А.// Казанский медицинский журнал. – 2010.