

FACIAL CHANGES DUE TO TOOTH LOSS***Ziloliddin Tursunaliev****Assistant of the Department of Therapeutic and Surgical Dentistry, CAMU*

The physiological equilibrium of the masticatory apparatus, as the stability of the form and function of the dentoalveolar system, masticatory muscles, and soft tissues, is under the constant influence of morphological, physiological, constitutional, endocrine, socio-economic impacts of the environment. Pathological changes occurring in the formed occlusion due to defects in the dental arches are characterized by a disruption of the interrelation between form and function. It has been revealed that in distally unrestricted defects, this system is qualitatively altered, which is confirmed by a disturbance in the metabolism of calcium salts, which is generalized and directly dependent on the time elapsed since tooth loss and the nature of functional changes.

The loss of posterior teeth in the absence of antagonists leads not only to deformations of the dental arches but also to occlusal deformations, one type of which is occlusal deformation with a posterior shift of the mandible. One of the forms of a collapsing bite arises.

The causes of a collapsing bite include various pathologies of the masticatory apparatus. These are increased abrasion of hard dental tissues, early loss of posterior teeth in the absence of opposing teeth, functional overload of individual teeth or groups of teeth in periodontal diseases, irrational prosthetics, the formation of defects in the dental arches, systemic periodontal diseases, etc.

The clinical picture depends on the form of occlusal deformation. In the initial stage, the signs of a collapsing bite are weakly expressed, and the rare complaints of patients are explained by the fact that the pathological process is in its initial stage, and significant morpho functional changes have not yet occurred. As the disease further develops, patients complain of difficulty chewing food. Upon external examination, a noticeable decrease in the height of the lower third of the face and pronounced nasolabial and chin folds are noted. Upon examination of the oral cavity, the depth of the incisal overbite depends on the type of the initial natural occlusion. Partial or complete blocking of lateral movements of the mandible and deformations of the dental and alveolar arches may be observed. The height of the gap between the dental arches in the anterior region in the state of relative rest of the mandible varies within a wide range. Compared to patients suffering from the initial stage of a collapsing bite, a certain increase in the gap is noted – from 2 to 12 mm. The developed stage of a collapsing bite is characterized by the localization of the pathological process within the dental arches and its transition to the temporomandibular joint. Patients complain of pain when opening and closing the mouth, chewing, clicking in the joint, fatigue of

the masticatory muscles, stuffiness or noise in the ears, and difficulty chewing food. However, the external signs at this stage are more pronounced than in the initial stage. Myo arthropathic dysfunctional syndrome develops [2].

In the process of the progressive decrease in the height of the lower third of the face, the articular heads can come into supporting contact with the deepest, posterior extracapsular part of the articular fossa, where the Glaserian fissure is located. This area is a thin bony septum separating the temporomandibular joint from the organs of hearing. The articular head compresses the Eustachian tube, creating conditions for the appearance of symptoms such as noise in the ears, a feeling of stuffiness in the ears, and hearing loss. The distal displacement of the articular head and its pressure on the chorda tympani nerve can cause a burning sensation of the tongue and a decrease in taste sensitivity. In addition to these symptoms, some patients with a collapsing bite may experience a feeling of pressure in the ears when chewing, tenderness of the auricle, pain upon pressure on the tragus of the ear, a popping sound in the ears when swallowing, and dryness of the oral mucosa.

With further development of the process, degenerative changes in the disc and capsule of the temporomandibular joint may be observed. The developed stage of a collapsing bite with the mandibular head displaced upward and backward is characterized by the fact that, due to the pull of the masticatory muscles with resilient periodontium of the anterior teeth, a deep incisal overbite is initially formed, and then a deep bite. A deep bite can turn into a deep traumatic bite.

Given the serious functional and morphological changes observed in this form of occlusal deformation, a specific treatment strategy for this group of patients has been developed at the Department of Prosthetic Dentistry.

The treatment of patients with defects in the dental arches complicated by a collapsing bite with a distal shift of the mandible is complex, labor-intensive, and lengthy, requiring high qualifications from the prosthodontist. Interaction with other specialists, most often orthodontists, is necessary for the preparatory stage and combined treatment methods, paying particular attention to functional disorders in the dentoalveolar system. Treatment should aim to eliminate all existing pathology. In cases where the deep bite has not turned into a traumatic bite, it is necessary to shift the mandible to its previous position, i.e., forward and downward. This shift simultaneously restores the height of the lower third of the face. This can be achieved by using a maxillary plate with an inclined plane. Depending on the degree of mandibular displacement, this preliminary orthodontic treatment can be carried out in one or two stages. Thanks to this stage, a reduction in subjective symptoms is achieved first, followed by the complete disappearance of the patient's complaints. To consolidate the achieved result, and also to ensure the subsidence of the pathological process, patients are recommended to wear the plate for another 4-6 weeks [1, 4].

After preliminary preparation of the patient, the fabrication of permanent prostheses is started according to the indications, taking into account the established individual height of the lower third of the face.

In cases where there is a reflected traumatic node in the area of the upper anterior teeth, it is advisable to combine a plate with an inclined plane with a vestibular arch wire to return them to their previous position. Subsequent prosthetic treatment should include splinting these teeth.

This sequence of treatment for patients with a complicated form of partial edentulism – occlusal deformation with the mandible shifted upward and backward – allows for the creation of the best conditions for the dentoalveolar system: eliminating overload of the temporomandibular joints, compression of nerve endings and related disorders, restoring the integrity of the dental arches, articulation, and chewing function.

Reference:

1. Nigmatov R.N., Nigmatova I.M., Kadyrov Z.M., Kholmiraev R.A. Differentiated Approach to Speech Correction in Children with Open Bite. // *Stomatologiya: Scientific and Practical Journal*. No. 2 (79), Tashkent, 2020. – P. 59-63.
2. Nigmatova I.M., Nigmatov R.N., Nodirkhonova M.O., Mavlyanova M.A. Treatment of Vertical Anomalies Using the LM-Activator in Children with Speech Function Disorders during the Mixed Dentition Period. // *Stomatologiya: Scientific and Practical Journal*. No. 3 (80), Tashkent, 2020. – P. 32-36.
3. Aliyeva N.M., Nigmatova I.M., Yakupov I.T., Ochilova M.U. Application of Aligners Prior to Prosthetics in Secondary Deformations of the Dentition in Children. // *Stomatologiya: Scientific and Practical Journal*. No. 3 (80), Tashkent, 2020. – P. 74-77.
4. Nigmatov R.N., Akbarov K.S., Nigmatova I.M., Abduganieva N.A., Razzakov U.M. The Frequency of Crossbite Occurrence in Children with Mixed Dentition and Provision of Dental Care. // *Stomatologiya: Scientific and Practical Journal*. No. 4 (81), Tashkent, 2020. – P. 27-30.
5. Prihodko O.G. Logopedic Massage in the Correction of Dysarthric Speech Disorders in Children of Early and Preschool Age.
6. Sokolova N.D., Kalinnikova L.V. (Ed.). Children with Disabilities: Problems and Innovative Trends in Education and Upbringing. Reader for the Course "Corrective Pedagogy and Special Psychology". – Moscow, 2001. – Ch. 5.
7. Nigmatov R.N., Shomukhamedova F.A. Orthodontics. – Tashkent, 2020.
8. Nigmatov R.N., Nigmatova I.M. Orthodontics. – Tashkent, 2021.