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EARLY SIGNS AND RISK FACTORS FOR THE DEVELOPMENT OF THE ARTICULAR FORM OF TRANSVERSAL OCCLUSION ANOMALY

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ABOUT ARTICLE

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Abstract: The main task of pediatric dentistry is to provide conditions for the harmonious growth and development of the child. Anomalies of the temporomandibular joint are formed gradually.

INTRODUCTION

They begin with subtle symptoms and, as the child grows, develop complex aspects of the anomaly that require many years of time-consuming and expensive orthodontic treatment [1]. There are many studies in the literature devoted to the study of the etiological factors of the occurrence of crossbite anomalies, which can act both prenatally and postnatally. However, in many cases, crossbite in the anterior and lateral sections is an "acquired" anomaly of the development of the alveolar system [1].K. Lopatiene, A. Sidiauskas and D. Smailiene (2003) and A.B. Slabkovskaya (2010) found that anomalies of crossbite in the II and III degrees of adenoid development in patients [5, 7]. Of particular importance in the development of malocclusion are local factors that cause tooth asymmetry, such as improper treatment, premature removal of false teeth, improper treatment of molars and the difference in tooth size on the left and right sides of the dentition [8]. Orthodontic treatment in all age groups should begin with the elimination of risk factors [4]. Therefore, timely diagnosis of early occlusive anomalies can correct the condition and ensure the normal development of the alveolar system at the

stages of occlusion and replacement of temporary teeth. Lateral occlusal abnormalities are diverse and, if not eliminated in childhood, can lead to significant aesthetic and functional disorders. The issues of diagnosis, early and late treatment, as well as complex surgical procedures are discussed in detail in the professional literature. However, in our opinion, insufficient attention is paid to the articular morphology of horizontal anomalies, risk factors for their development and the specifics of their treatment during teething. The aim of the study was to identify risk factors and early signs of the development of transverse occlusal abnormalities in children during the formation of occlusion and their assessment.

METHODS

To identify the etiological factors of this occlusal anomaly, a clinical examination of 60 patients with the articular form of transverse occlusal anomaly during the period of tooth change was conducted. The diagnosis of transverse occlusal anomalies was carried out in accordance with the algorithm developed by us for examining patients with transverse occlusal anomalies and differential diagnosis of their pathology (Fig. 1). The examination revealed a violation of nasal breathing in 21 patients (35.16%) and supercontact of false teeth in 16 patients (25.90%); primary and secondary incorrect tooth position: seven patients (11.80%), abnormal tooth position: four patients (7.40%), occlusive closure: four patients (7.03%), unilateral chewing: three patients (5.24%), caries and its complications: 3 (4.27%), bad habits: 2 (3.20%) (Fig. 2).2). Analyzing the data obtained during the examination of children, it can be concluded that occlusive risk factors and diseases of the otorhinolaryngological organs predominate among the pathological manifestations. Occlusive obstruction, the presence of supercontact and unilateral chewing load due to tooth extraction or caries were detected in all cases. These factors led to difficulty in transverse movements of the mandible, dysfunction of the masticatory muscles and changes in masticatory function. The most common sign of an anomaly in the examined children was the risk factor for transverse displacement of the mandible. In patients without mandibular displacement, certain risk factors may be present in the oral cavity, despite the visually undetectable facial asymmetry. Thus, occlusive anomalies affect the position of the mandible in the cranial space. When examining a dental patient, the doctor should pay attention to the occlusion and position of the lower jaw. For the convenience of diagnosis, determination of the position of the mandible in the cranial space in the manufacture of orthodontic devices and for the control of orthodontic treatment, we have developed a set of anthropometric measurements. When identifying preclinical risk factors in childhood, an orthodontist should conduct a comprehensive diagnosis, carefully monitor the development of the disease, eliminate it in a timely manner, treat the anomaly, develop preventive

measures and implement a medical examination system taking into account the identified risk factors for the development of lateral occlusive anomalies. In the process of orthodontic treatment of sagittal and vertical occlusal anomalies during the period of tooth change, when correcting horizontal and vertical jaw position ratios, doctors do not pay attention to the positioning of the lower jaw in the center (correct positioning of the lower jaw when using devices with inclined surfaces, interdigital rods and bicuspidal devices that clarify constructive occlusion and in the transverse plane). Sometimes there is a lack of attention. As an example, a clinical case is given when, during orthopedic treatment for secondary fusion of maxillary temporary teeth and displacement of the lower jaw to the right, supercontact was made in the area of temporary canines (numbers 7.3 and 8.3). Patient L (7 years old) was under the supervision of an orthodontist for a temporary tooth. During a clinical examination of the oral cavity, a removable complete prosthesis was installed in the upper jaw (Fig. 4c). The patient complained of difficulties in using prostheses. The child's grandmother noticed facial asymmetry after the prosthesis was installed (Fig. 4d, 4j). As a result of additional examinations, the patient was diagnosed with an articulated transverse occlusal anomaly of the III degree, right-sided displacement of the lower jaw. Secondary absence of maxillary false teeth. Infantile type of swallowing. As a result of using the device, the displacement of the lower jaw increased to 6 mm.The child complained of arthralgia after using the prosthesis. Therefore, a removable prosthesis was made and neuromuscular electrical stimulation of the masticatory muscles under electromyographic control was recommended. Exercises were also recommended to normalize swallowing, chewing food on both sides of the dentition and the use of a prosthesis around the clock.

CONCLUSION

Thus, a full-fledged diagnosis at the early stages of occlusal abnormalities will allow timely identification of risk factors for the development of an arthritic form of horizontal occlusal abnormalities.

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