muscle hypertrophy, in obesity or during pregnancy, ALT activity predominates in this pair. And, vice versa, during intense muscle loads, fasting, fever, during aging or against the background of cachexia, the activity of another transaminase, AST, dominates [4]. With chronic physical activity of moderate and submaximal power, a gradual increase in the activity of enzymes in the blood is observed: CC, LDH, AST, ALT, lactic acid content. Correlation analysis showed that the CPK/AST index has a strong positive relationship with the level of LDH (0.657; p=0.000), and a weak one with ALT (0.432; p=0.022). The de Ritis coefficient had a strong direct correlation with LDH (0.585; p=0.001) and CPK (0.502; p=0.006). Hyperenzymemia can be considered as a "functionally optimal" (adaptive) reaction in response to changes in the living conditions of the organism [1]. Depending on the direction of training loads, the release of the enzyme into the blood from the cell can be due to various reasons, the main of which are mechanical damage to the muscles induced by physical activity and metabolic stress caused by the formation of free radicals during training. A significant increase in enzyme activity against the background of rest after exercise acts as a marker of overtraining [3].

Conclusion. The results of the study indicate that students - mas-wrestlers are characterized by high values of CPK and ALP. An increase in CPK and muscle damage index (CPK / AST) more than 10 c.u. e. in student mas-wrestlers, it can be explained by mechanical damage to muscle fibers when exposed to large volumes of training load. High levels of alkaline phosphatase may be associated with an increase in the power of metabolic processes or a deficiency of certain vitamins in the diet of athletes. Control of the biochemical parameters of the blood of athletes is an important marker for identifying the current functional state of the body.

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CLINICAL CASE

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CLINICAL CASES OF UPPER JAW CONSTRICTION IN CHILDREN AND ADOLESCENTS DUE TO SEVERITY OF CONNECTIVE TISSUE DYSPLASIA

The problems of improving complex medical and social rehabilitation of children and adolescents with connective tissue dysplasia due to its degree of severity (DCT) have not been completely solved up to the present time. At the same time, insufficient information on the diagnosis of dentition anatomical changes depending on DCT severity has been identified in the research. Thus, we present clinical cases of upper dentition cconstriction in children and adolescents with connective tissue dysplasia at various degrees of severity, taking into account the arch height of the hard palate. The **purpose of the research** is to present clinical cases with pronounced upper dentition constriction in children and adolescents with different severity of connective tissue dysplasia based on the clinical and biometric studies. **Discussion**. We've obtained high values of the sum of the four upper incisors width, characterized as macrodentia in the examined children and adolescents with DCT, which has a direct impact on the deformation of the maxillary dentition. Thus, constriction of maxillary dental arches in mild DCT is 19,32+1,47%, moderate - 22,39+0,72 and severe - 28,52+1,70%, which have significant differences (p<0,05), and the average is at the level of 23,41+0,54%. A certain pattern of increased frequency of upper dentition constriction depending on DCT severity has been established. **Conclusion**. The research clinical results characterize local DCT manifestations of the maxillary dental row in the form of incisor macrodentia as well as its constrictions where the tendency of increasing the incidence

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rate depending on its severity degree has been established in the examined age groups of schoolchildren of the North. The established data of the anomalies increase of the frontal teeth group shape and upper jaw narrowings depending on DCT severity in schoolchildren may become the basis for the improvement of treatment, prophylactic and rehabilitative measures.

Keywords: connective tissue dysplasia, phenotypic features, upper dentition, dental anomalies, diagnosis.

Introduction. Connective tissue dysplasia (DCT) refers to congenital pathologies that are associated with changes in the synthesis and assembly of collagen, elastin, leading to their insufficient crosslinking [4, 22]. At the same time, DCT manifests itself in the form of general and local phenotypic signs, where dental anomalies, Gothic palate, TMJ dysfunctions, periodontal diseases, multiple caries, etc. are most often detected in the oral cavity. [1, 2, 10, 11, 15, 16, 17]. Meanwhile, a certain part of syndromic forms of DCT can lead to a persistent deterioration of health in childhood, which is of medical and social importance [7, 9, 14,18]. Today, the issues of diagnosis, treatment, prevention and rehabilitation of patients with DCT, which remain unresolved, are widely studied [3, 6, 13,21].

It should be noted that most often in the structure of local manifestations, changes in the dentition of the maxilla 6 are detected [5, 8, 12]. In this case, these manifestations are often accompanied by the change in the function of speech formation, the respiratory system, the development of the child, the jugular system. In this regard, various studies aim at improving the quality and availability of medical and preventive measures in patients with DCT [19, 20].

Objective of the research is to present clinical cases with pronounced upper dentition constriction in children and adolescents with different severity of connective tissue dysplasia based on the clinical and biometric studies.

Clinical Case of the Treatment of the Patient with Mild DCT # 1. Patient A., 17 years old, consulted a pediatrician at «Yakutsk Specialized Dental Center". He complaints of dental anomalies, posture disorders. The main diagnosis: osteochondrosis of the thoracic department, scoliosis, platypodia.

During the clinical examination, a pediatrician diagnosed a mild connective tissue dysplasia. During the dental examination, the patient was diagnosed with gothic palate (Fig. 1), narrowing of the upper dental arch, close position of the incisors of the upper and lower jaws, tortoanomaly 11 and multiple dental caries.

The pronounced constriction of the upper and lower jaws proved a mild DCT, taking into account the index of the vault height of the hard palate (1.7 cm), the result of measuring the first premolar of the

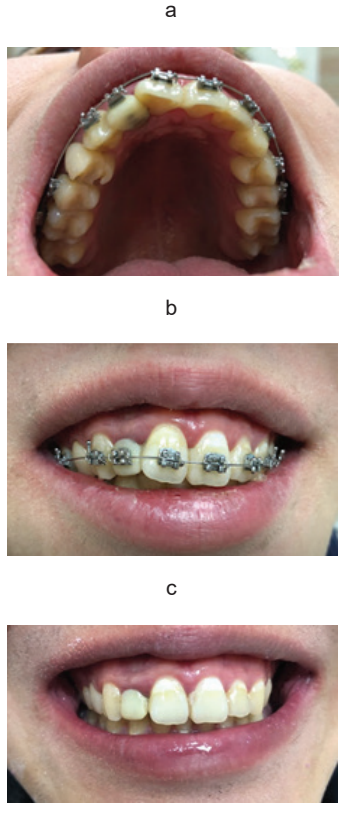

Fig. 1. A patient with narrowing of the upper dentition with a mild degree of severity of DST: a - revealed gothic palate, b - at the stage of corrective therapy with a bracket system on the upper jaw, c - after orthodontic treatment

upper jaw (-2.53 mm), by the first molar (-2,15 mm), the result of measuring the lower jaw between the premolars (-2.22) mm, by the first molar (-3.51 mm).

The braces system was installed with monthly correction during treatment, there was a positive dynamics (Fig. 2). At the end of treatment, the normalization of the occlusion, the expansion of the upper dental arch and the position of the 11 tooth were determined (Fig. 3).

A clinical case of the patient with moderate DCT # 2. Patient B., 15 years old, consulted a pediatrician at "Yakutsk Specialized Dental Center". He complaints of dental abnormalities, postural disorders, hyperextensibility of the skin, epicanthus, chest deformities, adherent earlobes. The main diagnosis: osteochondrosis of the cervical department, vegetative vascular dystonia, epicanthus, scoliosis, platypodia.

During the clinical examination, a pediatrician diagnosed a moderate connec-

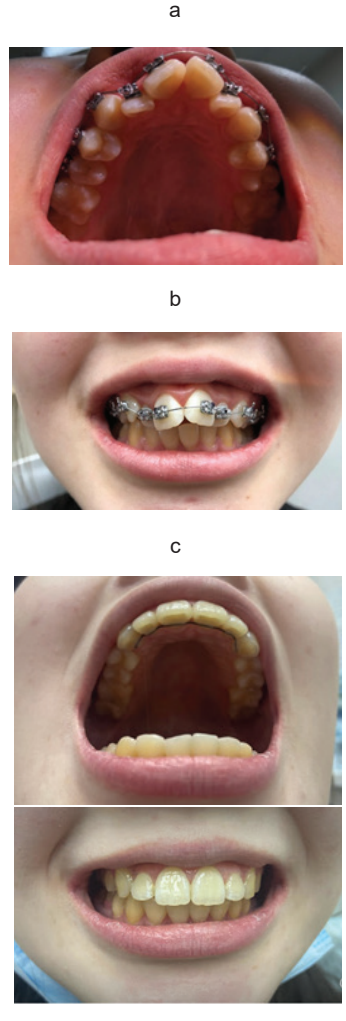

Fig. 2. A patient with narrowing of the upper dentition with moderate severity of DST: a - revealed gothic palate, b - at the stage of corrective therapy with a bracket system on the upper jaw, c - after orthodontic treatment

tive tissue dysplasia. During the dental examination, the patient was diagnosed with gothic palate, distal occlusion, sagittal incisional dysocclusion, narrowing and shortening of the anterior dental arches, close position of the incisors of the upper and lower jaws, macrodentia, multiple dental caries, chronic catarrhal gingivitis and dysfunction of the temporomandibular joint.

The pronounced constriction of the upper and lower jaws was interpreted as the average degree of DCT due to the index of the vault height of the hard palate - 2.1 cm, the results of measurements of the first premolar of the upper jaw - 2.74 mm, according to the first molar -

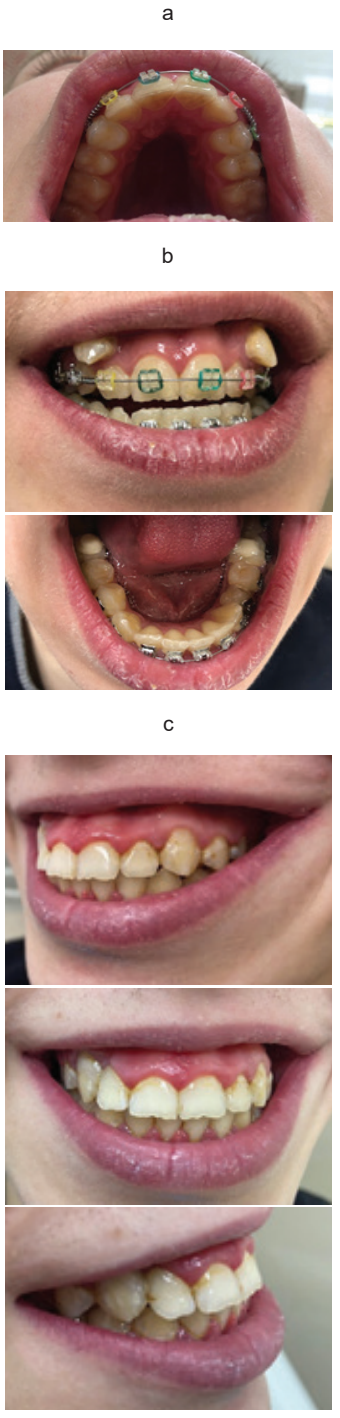

Fig. 3. A patient with narrowing of the upper dentition with severe severity of DST: a - revealed gothic palate, b - at the stage of corrective therapy with a bracket system on the upper jaw, c - after orthodontic treatment

(-2.55) mm, and on the lower jaw the result of measurements between the premolar - (-3.21) mm, by the first molar - (-6.21) mm.

The bracket system was installed on the upper jaw (Fig. 4) with positive dynamics at the stage of treatment (Fig. 5). At the end of treatment, the normalization of occlusion, the expansion of the upper dental arch and the position of the incisorse were determined (Fig. 6).

A clinical case of the patient with severe DCT No. 3. Patient V., 16 years old, consulted a rhematologist at «Yakutsk Specialized Dental Center". He complaints of dental abnormalities, postural disorder, hypertensiveness of the skin, deformity of the chest, hypermobility of the joints. The main diagnosis: osteochondrosis of the cervical and thoracic parts, blue sclera, saddle-shaped nose, keeled chest, vegetative dystonia, mitral valve prolapse and temporomandibular joint dysfunction.

During the clinical examination, the pediatrician diagnosed severe connective tissue dysplasia. During the dental examination, the patient was diagnosed with gothic palate, mesial occlusion, reverse incisional occlusion, narrowing and shortening of the anterior part of the dental arches, shortening of the lateral parts of the upper dental arch, close position of the lower incisors, vestibulosupposition of the upper canines, macrodentium, multiple dental caries, chronic catarrhal gingivitis and temporal dysfunction mandibular joint.

The pronounced constriction of the upper and lower jaws of severe DCT were interpreted due to the index of the vault height of the hard palate - 3.1 cm, the results of measurements of the first premolar of the upper jaw - 6.02 mm, according to the first molar - (-6.54) mm, and on the lower jaw the result of measurements between the premolar - (-7.62) mm, according to the first molar - (-8.82) mm.

The braces system was installed (Fig. 7) during treatment, there was a positive ddynamics (Fig. 8). At the end of treatment, normalization of occlusion, dilation of the upper dental arch and normalization of the position of 1.3, 2.3 and frontal teeth were determined (Fig. 9).

Conclusion. The analysis of these clinical cases allows us to determine the existence of a direct relationship between the frequency increase of changes in the maxillary dentition depending on the severity of DCT. Typical local manifestations of DCT in the examined age groups of schoolchildren of the North in the form of macrodentia of incisors of the upper jaw are specific regional risk factors for the development of dentofacial anomalies. The research data of the increase of the shape abnormalities of the frontal group of teeth and constriction of the maxillary dentition depending on the severity of DCT in schoolchildren can become the basis for improving medical, preventive and rehabilitation measures.

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