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Peculiarities of the identification and early diagnostics of the pathology of cultivation of teeth and formation of the chest in children

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Abstract: This article analyzes the perinatal causes of biting and eating problems in children with congenital cracks of the upper lip and palate. Facial deformity in children is not only a medical but also a social problem all over the world. At the end of the 20th century, the frequency of births of children with this pathology has doubled in the last twenty years. Congenital oropharyngeal defects were the most common intrauterine defects in perinatal and early infant mortality.

Keywords: Facial defects, laboratory tests, children, congenital, pathology, jaw.

Introduction: The article presents materials on the age, regional features of teething and bite formation in children, describes the factors that lead to the development of pathology. Also given are data on methods for early diagnosis of the pathology of teething and the formation of bite in children.

Teething is the axial movement of the non-functional position in the jaw bone into a functional occlusion. The dynamics of this process depends on the degree of formation of the root, periodontal and is closely related to the development and growth of the craniophatic complex [1, 20]. Teething is a physiological stage process, characterized by the appearance of dairy, then permanent teeth in children.

Depending on the current mechanism of tooth eruption, impaction and an eruption are classified. Impact is a delay in the eruption of the tooth, due to the presence of a mechanical obstacle. The cause of this pathology may be a shortage of space in the dentition on the background of crowding, the presence of a mucous barrier, overcomplete teeth and others. An erection is the primary violation of the process of eruption of non-ankylosed teeth with complete or partial lack of growth [20].

The dental rudiments appear in the fetus at about 6-week of intrauterine life. For 1.5 months, the process of mineralization of bone tissue takes place. During this period, the fetus takes from the mother's body the calcium, phosphorus, protein and other substances necessary for its teeth [10, 26, 36]. In this period, various diseases, malnutrition, the taking of certain medicines by a woman causes fetal anomalies in the number and shape of dental crowns, break the strength and color of their enamel.

By the time the baby is born, crowns of 20 milk teeth are located in the depth of the alveolar processes of the jaws in a fully formed state. The process of their eruption is a kind of gradual increase in their volume and pushing outward, in which they overcome the resistance of bone tissue, mucous membranes. At this time, the gums become swollen and sensitive [13, 27].

Teeth erupt in a certain sequence, the order of teething is disturbed in rickets, genetic syndromes, the absence of a bookmark of dental rudiments as a result of a complicated course of pregnancy, endocrine pathology [21, 47].

Zakharova I.N. et al. [18] believe that various factors influence the eruption of milk teeth. The main importance in the process of dentition is the human genotype, its constitution, and the role of various environmental factors can not be ruled out. The authors believe that the teeth of children of elderly parents erupt earlier than those of young parents. In the first-born, teeth begin to erupt earlier than in the

second and third children, girls have a direct relationship between the degree of preterm infancy and the terms of eruption of the baby teeth earlier than in boys. Features of the course of pregnancy in the mother also affect the physiology of teething.

Disturbance of the processes of eruption and change of teeth can be noted in pathology of the pituitary gland, refusal from breastfeeding, frequent acute respiratory infections, pneumonia, neonatal sepsis [19, 29].

According to Yatsenko AK. et al. [35] at the present stage, the study of age-sex and regional features of eruption of permanent teeth as an important indicator of biological maturity and the state of children's health remains important. This is necessary when planning, implementing measures to prevent violations of biological development among children. Vatlin A.G, Chuchkov V.M also came to this opinion. [11].

Arkhipova Yu.A., Timchenko V.V. [4] determined the timing of dentition of 156 children of the first year of life, born of HIV-positive women. It has been established that perinatal HIV infection

contributes to the delay in teething in children. Similar results were obtained by Aldrovandi G.M. [37] and Jsanaka S. [43].

Teething teeth serves as an indirect indicator of the correct development of the child. As a physiological act, teething is not a painful phenomenon, it does not cause pathological conditions. It is in direct connection with the general state of the child's health, timely in a certain sequence, the growth of the teeth indicates the normal development of his body [3, 30].

Galonsky V.G. et al. [13, 14] presented the results of studying the process of erupting temporary and permanent teeth in children in the city of Krasnoyarsk. The sequence and average terms of teething, temporary bite in the form of age ranges have been determined. Characteristic differences in terms of eruption of temporary and permanent teeth in boys and girls are noted, as well as regional characteristics of these indicators among the surveyed children.

Bimbas E.S. et al. [9] determined the timing of eruption of permanent teeth in an early interchangeable bite in children of primary school age in Ekaterinburg. Some discrepancies with the standard terms of teething have been identified, which indicates the need for their clarification in each region. Sex differences in the eruption of permanent teeth merit attention. All children were asymmetrically incised into the upper incisors. Similar results were obtained by Feraru I.V. et al. [39] who studied Romanian children.

Ayupova F.S. [5] studied the sequence of eruption of canines and premolars in 216 children aged 7-12 years. In the children of the main group caries of temporary teeth were combined with disruption of the location of permanent teeth and rudiments, deformation of dental arches, violation of the timing and sequence of eruption of permanent canines and premolars. In other studies, Ayupova FS. [6] studied 998 medical records of children 3-10 years of age who applied for orthodontic treatment for the period from 2003 to 2012. It was established that the prevalence of secondary adentia in children of the Krasnodar Territory, who applied for orthodontic care, reached 31.27%. In the structure of prematurely removed temporal teeth, the upper incisors, the first molars, the lower canines and their combination predominated. Sexual differences in the structure of prematurely removed teeth and their localization, respectively, to the quadrants of dental arches have not been revealed.

Denisenko DV, Yanovsky LM [17] analyzed the modern aspect of studying the age of eruption of permanent teeth in children from different regions. The authors offer unified criteria for evaluating the process of eruption of permanent teeth.

Starchenko I.I. [33] based on morphological studies gave a comparative characterization of the rudiments of the first and second milk molars of a man at 10-12 weeks of intrauterine development. During the studied period, the early stages of the formation and differentiation of dental rudiments were observed in the rudiments of the first molar molars. The rudiments of the second molars lagged considerably behind the rudiments of the first molars and were at the stage of the bookmarking of the tooth rudiments. It is suggested that there is a direct correlation between the degree of maturity of the rudiments of infant teeth in the early stages of odontogenesis and the timing of the eruption of the corresponding milk teeth.

Iordanishvili AK et al. [22] cite data from a dental examination and the study of cone-beam computer tomograms of the jaws of 93 men aged 18-27 years with the aim of studying the anatomical and topometric characteristics of the upper and lower jaws in the eruption or retention of wisdom teeth. As a result of the study, the features of the anatomical structure of the alveolar process of the jaw in the region of the hillock of the retro-molar space on the lower part during eruption and retention of molars were refined.

Correctly and timely formed bite plays a big role in the normal development of the child's body. Violation of teething can lead to the formation of an incorrect bite in children [30, 38].

Terekhova TN [34] presented norms of functions during the formation of occlusion, described possible violations, the influence of bad habits on the formation

of the maxillofacial region. She pointed out the methods of eliminating bad habits and normalizing the functions of the dentoalveolar system that promote the proper development of this system in children and prevent the development of persistent dentoalveolar anomalies and deformities.

Vodolatsky M.P., Vodolatsky V.M. [12] studied the nature of malocclusion in children and adolescents according to the results of a dental examination of 2,676 preschool children and schoolchildren in Stavropol 4-17 years. The study of the dynamics of abnormalities of the dental arches and the apical base of the upper and lower jaws in children aged 3-6 years is presented, and the morphological characteristics of the dentoalveolar system are presented, in which two phases are identified - stable and labile, preceding the change of teeth. ded in the child. For various reasons, a number of abnormalities can arise in the structure of the teeth, their arrangement and development [5, 14, 19]: the absence of a tooth rudiment, the wrong position of the tooth axis (horizontal and oblique), why it erupts outside the arch of the dentition or remains in the thickness of the jaw bone, wrong formation of the tooth itself - size, shape, position, color, lack of enamel coating.

The reasons for the delay in teething are considered to be [2, 20, 22]: adentia (the fetus in prenatal life under the influence of various factors disrupts the formation of dental germs) and retention (not dentition). The cause of adentia can be the melting of individual primordia of permanent teeth as a result of the inflammatory process around the roots of the baby teeth or a destructive process. Multiple congenital absence of teeth leads to disruption of the teeth and functional overload of some of them, underdevelopment of the alveolar process, a decrease in the height of the occlusion, and aesthetic abnormalities.

The severity of these disorders depends on the number of missing teeth on each jaw, the teeth belonging to the anterior or lateral group, the presence of delayed dairy, accompanying disorders [28, 40].

Functional and aesthetic disorders increase with an increase in the number of absent teeth and pairs of antagonists [1, 30]:

- Functional abnormalities include eating disorders, chewing disorders, biting the lateral areas of the tongue and cheeks, lowering the bite height and shifting the lower jaw forward, aside, paraproction of the muscles of the perioral region, infantile swallowing, bad habits, improper pronunciation of sibilant and deaf sounds, incorrect articulation language at rest and during function, omission of the back and root of the tongue;
- aesthetic abnormalities include changes in the facial and facial profile, which are manifested by a decrease in the height of its lower part, thickening of the lips and reversing their red rim, deepening of the supramental sulcus with neutral or distal occlusion, occlusion of the upper lip, and smoothing of the nasolabial folds with mesial bite.

Often the adentia of more than 10 teeth is combined with a violation of the development of ectodermal derivatives (ectodermal dysplasia), manifested by a decrease in the scalp, underdevelopment of eyebrows, eyelashes, nails, dry skin, its folding and pigmentation. Sometimes there are changes in the lens, the iris of the eyes, the infection of the lacrimal ducts, and the central nervous system (CNS). These changes are most pronounced in anhydrogic ectodermal dysplasia [34].

The most informative method of radiological examination of the jaws, which makes it possible to identify the adentia of individual teeth in different age periods of occlusion formation, is orthopantographic examination [15]. In addition, the method of computed tomography showed a positive side [31, 45].

It is proved that with multiple adentia it is necessary to provide dental prosthesis as early as possible. Since children are lagging behind in growth because the body poorly absorbs food, which is caused by difficulties in its reception, crushing, moistening with saliva. Children who do not have a sufficient number of teeth are not sociable, easily injured and excitable, deeply afflicted with their pathology [6, 7].

It is established that, the cause of retention can be filling the canal of a prematurely torn out baby tooth with an adjacent tooth, incorrect placement of a permanent tooth in the jaw. The presence of retinas can lead to complications, since this pathology causes neuralgic pain in the face [8, 41].

One of the reasons for the delay in teething may be the presence of a follicular cyst. In this case, treatment in the form of surgery, will be preceded by radiography [30].

In connection with improperly laying follicles, supercomplete teeth are often retinished. In 67% they erupt in the dentition or with deviations from it, and in 33% remain retinished. Most of the retina teeth are located horizontally or with a turn toward the nasal cavity [1, 42].

In 90% of cases, supercomplete teeth cause various complications in the dentoalveolar system, causing anomalies, inflammatory and dystrophic changes in surrounding tissues. The most common chronic inflammation of the mucous membrane in the area of

the superfine tooth, periodontitis and resorption of the roots of neighboring teeth, follicular cysts, sometimes overcomplete teeth cause rhinitis, sinusitis, osteomyelitis. Quite often supercomplete teeth cause speech and chewing difficulties, injure lips, tongue and oral mucosa [32, 39]. The most characteristic anomalies in patients with superfine teeth are abnormalities of position, retention, false diastema and crowding of permanent teeth.

Complications caused by retinitis are symptomatic neuralgia of the 2nd and 3rd branches of the trigeminal nerve, caries and pulpitis of the delayed tooth, which causes sharp pains, caries and pulpitis of the detained tooth, acute and chronic periodontitis of the adjacent tooth, acute odontogenic osteomyelitis, abscesses and phlegmon, follicular cysts, near-root cysts, adamanthinoma [29].

Anomalies of occlusion arise from the uneven growth of the jaws, because of the prolonged sucking of the nipple. Anomalies of the location of the teeth arise due to constitutional reasons (small jaw size), due to injuries, with congenital disturbance of connective tissue exchange, with tumors of the alveolar process of the jaw. Absence of teeth up to 1 year is extremely rarely associated with adentia. Check for the presence of dental germs with the help of a special method of radiovisiography [1, 2, 30, 44, 46].

Ilenko LI [23] Dentokind and Viburkol supplements were prescribed to improve the quality of life for children with painful dentition. A total of 200 children were examined. As a result of the study it was found that both drugs are effective and safe and can be recommended for the treatment of painful symptoms of teething.

Goreva E.A. et al. [16] studied the clinical manifestations of teething in a child, evaluated the efficacy and safety of using the "Pansoral first teeth" to alleviate the dysmenorrhoea in children.

Musabekova Zh.A. et al. [29] found that perinatal lesions of the central nervous system are one of the most pressing problems in children's practice, as they often lead to disadaptation of the child in the social environment, and in severe cases to disability. Actovegin intramuscularly in the age-related dosage was given to children with neurological pathology. Against the background of treatment with actovegin in infants with neurological pathology, its influence on teething has been revealed.

In foreign and domestic literature, works devoted to the study of the influence of ecologically unfavorable factors on the timing and order of eruption, the formation of the roots of teeth in children are rare. Research Inoyatova A.Sh. et al. [24, 25] is devoted to the study of the influence of environmental factors on the formation of the roots of teeth in children. The authors point out that if unfavorable environmental factors influence the process of embryogenesis of the maxillofacial area,

this will affect the timing and order of teething as well as the formation of an occlusion in children.

Thus, the process of teething and bite formation is a physiological process, which is one of the important indicators of the state of health and physical development of the child. However, there are a number of factors that have an unfavorable impact on this process and create the opportunity for development.

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