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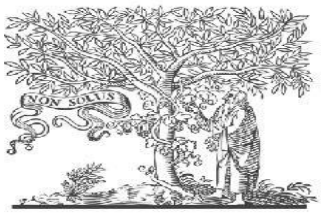

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Comparative characteristics of the anthropometric parameters of the craniofacial region in children with adenoids

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Abstract. The article analyzes the literature on the anthropometric parameters of the craniofacial region of children with adenoids

Keywords. adenoids, anthropometry, craniofacial region

I. Introduction.

The standard of a perfectly proportioned face is one that is distinguished by balanced individual parts and smooth outlines that form an oval.

The overall attractiveness of a face depends on all anatomical elements, including skin, subcutaneous tissue, muscles, bones, and teeth. To achieve or approach the aesthetic ideal, doctors must have a clear idea of the proportions of facial features, the method for analyzing its defects and the possibility of using special methods for eliminating them. The etiological factors contributing to the development of dentoalveolar anomalies are numerous and varied [18].

By examining various ethnic, age and sex groups, and measuring the size of various parts and recording variations in the position and shape of cranial and facial structures, broad standards have been developed that describe the human head. As a specialized part of anthropometry, “human measurements”, the study of the head came to be called “craniometry” or “cephalometry” [6].

Cephalometry (measurement of craniofacial parameters), an ethnographic definition of skull morphology, has been studied by anthropologists for many centuries [17]. Cephalometry is an effective method for assessing the structure of the individual's dentition, identifying the formation features inherent in variants of dentoalveolar anomalies, and studying the changes that occur during the growth of the face [11]. Diseases of the ENT organs, in particular hypertrophy of the pharyngeal tonsil and "adenoid" growths, play an important role in changing the parameters of the face and the dentoalveolar system [11]. The trend towards an increase in the frequency of occurrence of pathology of the pharyngeal tonsil in children is steadily growing, which negatively affects the formation of the structures of the nasomaxillary complex [15].

Also, it was found that the frequency of this pathology detected is 398.8 cases per 1000 children in preschool age and 199.2 per 1000 among schoolchildren. In 21% of preschool children, hypertrophy of the pharyngeal tonsil was revealed, and in 3% - chronic adenoiditis. In the structure of ENT organ pathology in preschool children, adenoids account for more than half (53.1%) of all diseases. Adenoid growths (adenoides) usually occur between the ages of 3 and 15 years, but there are also younger children and adults. Adenoids are observed equally often in boys and girls, approximately in 3.5-8% [10]. But according to Garashchenko T.I., (2008) the greatest severity and prevalence of adenoid vegetation is observed in children aged 3-7 years. Pediatricians and ENT doctors associate these “age peaks” of reactive hyperplasia of the pharyngeal tonsil with the formation of an “immature” immune system due to socialization of the child, that is, the expansion of external contact with the microbial environment when children enter preschool

institutions or schools [3]. The pathogenesis and etiology of adenoid vegetations remain largely unclear. Adenoid enlargements are localized in the region of the posterior part of the nasopharyngeal fornix, but can fill its entire dome and spread along the lateral walls downward to the pharyngeal orifices of the auditory tubes [10]. Despite the large number of scientific studies devoted to the problem of adenoids, until now there is no single point of view on the causes of pathological changes in the pharyngeal tonsil [2,4,7,8]. In children, chronic diseases of the lymphoid pharyngeal ring are characterized by certain features. Since hypertrophy of the pharyngeal tonsil, which maintains a chronic rhinitis and complicates nasal breathing, helps to reduce the child's resistance to external stimuli, which leads to the development of many chronic diseases: sinusitis, tonsillitis, otitis media, lesions of the bronchopulmonary system, cardiovascular pathology and others [9]

Since the development of the dentoalveolar system is influenced by many interdependent factors, the identification of morphofunctional changes in the dentoalveolar system and the upper respiratory tract is an important problem in theoretical and practical medicine, which has attracted the attention of many scientists today [5,13,16,20]. With a long course of the disease in children, disorders in the development of the facial skeleton occur: the constantly drooping lower jaw becomes narrow and elongated, the hard palate develops incorrectly - it is formed high and narrow; due to the incorrect position of the teeth, the bite is disturbed. These changes give the face a characteristic “adenoid” appearance [10].

Prolonged absence of nasal breathing affects not only the development of the upper jaw, which is accompanied by a decrease in its transversal size and is a factor in the development of bilateral crossbite, but also the formation of the lower nasal passage through which the main air flow enters during inhalation [12]. Cephalometrically, it is possible to note a greater height of the anterior part of the face and an increased angle of the plane of the mandible [16].

According to Emmerich A. et al., (2004) and De Menezes V.A. et al., (2006) children with nasal breathing difficulties have a 2-2.5 times higher risk of developing dentoalveolar anomalies [13, 14]. At the same time, there is still no consensus among scientists about the criteria for the severity of nasal obstruction that cause changes in the maxillofacial region, development mechanisms and characteristic signs of malocclusion in violation of nasal breathing [5]. Therefore, an open mouth and, as a result, the child's mouth breathing is the cause and effect of many myofunctional disorders. Over the past 10–15 years, the number of children who have fixed the habitual open position of the mouth has increased, which results in a restructuring of the breathing type: the child switches from the physiological nasal breathing type to the pathological oral breathing type [1]. After adenoidectomy and relief of nasal breathing, accelerated growth of the mandible and closure of the mandibular plane angle have been reported [19].

After studying the literature available to us, we found that information about the anthropometric parameters of children with ENT diseases is diverse and this requires further research. Thus, the issue of tactics of managing patients with dentoalveolar anomalies against the background of an adenoid requires the creation of an algorithm for a comprehensive solution to this problem with the participation of not only an otorhinolaryngologist and a morphologist.

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