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ADENOTOMY AND ITS EFFECT ON THE FUNCTIONAL STATE OF THE IMMUNE SYSTEM

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Abstract: The article reviews systemic pathological processes and abnormalities in the development of the child's body, the manifestations of which may be hypertrophy and chronic inflammation of the pharyngeal tonsil. The role of adenotomy as a method of treating pathology of the pharyngeal tonsil, its effect on the functioning of the immune and endocrine systems of the child's body is considered.

Keywords: hypertrophy of the pharyngeal tonsil, chronic adenoiditis, constitutional lymphaticism, obesity, bronchial asthma, allergic rhinitis, childhood, adenotomy.

The formation and formation of the immune system is a long process, which is determined by the genetic program of development and interaction with environmental factors. After birth, the lymphoid tissue of the child receives a powerful stimulus for development. The flow of antigenic stimulation through the respiratory tract ensures active colonization of the mucous membrane with microflora already in the first hours after birth. This stimulates the intensive development and increase in the mass of lymphoid organs. In the formation of local immunity of the upper respiratory tract, the lymphoid organs of the pharynx play a leading role. In children, the pharyngeal amygdala performs educational, informational and regulatory functions in relation to the immunocompetent structures of the nasal cavity, paranasal sinuses, middle ear and other structures of muconasal immune protection. It provides non-specific and specific immune protection of the body, mucoregulation with activation of mucus formation. Pathological processes in the pharyngeal tonsil and their effect on the functional state of the immune and endocrine systems are considered from several positions. Firstly, hypertrophy of the pharyngeal tonsil, often combined with hypertrophy of the palatine and tubal tonsils, may be a manifestation of a somatic type – constitutional lymphaticism. Secondly, a change in the functioning of the pharyngeal tonsil may be a manifestation of a chronic infectious and inflammatory process of the nasopharynx - chronic adenoiditis. And, thirdly, with hyperreactivity of the respiratory system, i.e. the presence of allergic rhinitis and /or bronchial asthma in the child, changes in the pharyngeal tonsil are observed by the type of hypertrophy and chronic adenoiditis.

Hypertrophy of the pharyngeal tonsil reflects the immunoreactive state of the body associated with constant bacterial contamination of lacunae and increased

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circulation of lymphocytes. At the histological level, in contrast to the norm, with hypertrophy of the pharyngeal tonsil, there is a change in the size of lymphoid follicles, which vary from small, with fuzzy borders of lymphoid belts, to large, with a large number of macrophages. Hypertrophy of the pharyngeal tonsil and nasal obstruction caused by it contribute to the formation of a habit in a child – constant mouth breathing. Constantly open mouth leads to tension of the facial muscles. This leads to the elongation of the skull, the extension of the upper jaw forward, the lower jaw drooping. There is a change in the solid sky, which becomes narrow and high – the so-called "Gothic sky". In parallel, there is a violation of the normal location of the teeth, as there is less and less space for their placement. In this regard, the teeth can be arranged in a tile-like manner, sometimes in two rows. There is also the formation of a pathological bite. These changes progress with an increase in the duration of nasal obstruction. At the same time, even surgical treatment cannot completely reverse the changes that have occurred.

The following etiological factors leading to the development of constitutional lymphaticism are considered: physical effects on the fetus – alcohol, X-ray irradiation, hypoxia, infectious and allergic agents, stress factors, anesthesia. The risk factor for the development of this somatic type is the prematurity of the child, complications of the course of labor – birth trauma, weakness of labor activity, premature discharge of amniotic fluid. In the pedigree of 70% of children with constitutional lymphatism up to the IV generation, various infectious-allergic, neuropsychic diseases and endocrinopathy are traced. Often, the child's parents have chronic tonsillitis or hyperplasia of the lymphoid pharyngeal ring. Constitutional lymphaticism is characterized by the presence of lymphoproliferative, endocrinopathic and dysontogenetic syndromes, often combined with increased respiratory morbidity. In peripheral blood, lymphocytosis is observed (>60%) with a simultaneous decrease in the titer of immunoglobulins A, M and G. Such children necessarily have lymphoid hyperplasia. There is an increase in the thymus in 30% of cases. The mental development of children usually corresponds to age. On examination, the pallor and pasty of the skin is noted. This somatic type is characterized by pronounced hyperplastic reactions from the lymphoid organs against the background of pituitary-hypothalamic insufficiency, thymus gland dysfunction and insufficient production of glucocorticoids. It follows from the above that isolated hypertrophy of the pharyngeal tonsil is much more common than constitutional lymphaticism. The task of a pediatrician, an otorhinolaryngologist is timely diagnosis of this somatic type among children with hypertrophy of the pharyngeal tonsil, dispensary observation, taking into account the peculiarities of the functioning of the immune and endocrine systems.

With constant contact of the child's body with infectious agents circulating in the air, taking into account the immaturity of the immune system, biofilms of pathogenic

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microorganisms are formed on the surface of the pharyngeal tonsil. In this case, damage occurs to the atrial epithelium of the pharyngeal tonsil and the formation of areas of "baldness" that are more vulnerable to adhesion factors of viruses and bacteria. With frequent exposure to viral agents, the mucosa is rearranged with the formation of a transitional or multilayered squamous epithelium, the infiltration of the mucosa by phagocytes and lymphocytes increases, the basement membrane and its own layer of the mucosa are damaged, the secretion of transforming growth factor β by fibroblasts increases. Sometimes there is an increase in the number of secreted goblet cells. A special role in the development of chronic inflammation of the pharyngeal tonsil is played by viral agents – cytomegalovirus, herpes simplex virus and Epstein-Barr virus. They are tropic to the prismatic epithelium covering the pharyngeal and palatine tonsils.

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