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**DIAGNOSTIC CHARACTERISTICS AND TACTICS OF TREATMENT OF
ADENOIDS IN CHILDREN**

Resume: Adenoid vegetations (otherwise, adenoids) are an overgrowth of lymphoid tissue, which is the basis of the nasopharyngeal tonsil. They are involved in the protective processes of the body, in particular, they are a shield that prevents the spread of infections in the body in children.

Adenoids are an obstacle to the spread of infection, when an infection enters the body, they "take the hit" and increase in volume. The return to the previous state is quite slow (from 1 to 3 weeks). During this period, the child may get sick again, so the adenoids in often sick children remain overgrown, edematous.

Keywords: children's age, adenoid, frequently ill, clinical and morphological characteristics.

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**ДИАГНОСТИЧЕСКАЯ ХАРАКТЕРИСТИКА И ТАКТИКА
ЛЕЧЕНИЯ АДЕНОИДОВ У ДЕТЕЙ**

Резюме: Аденоидные вегетации (иначе, аденоиды) – это разрастание лимфоидной ткани, которая является основой носоглоточной миндалины. Они участвуют в защитных процессах организма, в частности являются щитом, который препятствует распространению инфекций в организме у детей.

Аденоиды являются препятствием для распространения инфекции, при попадании инфекции в организм они «берут удар на себя» и увеличиваются в объёме. Возвращение в прежнее состояние происходит достаточно медленно (от 1 до 3 недель). За этот период ребёнок может снова заболеть, поэтому аденоиды у часто болеющих детей так и остаются разросшимися, отечными.

Ключевые слова: детской возраст, аденоид, часто болеющих, клиничко-морфологическая характеристика.

Relevance. In the structure of morbidity of the CBD group, the pathology of JIOP organs occupies a dominant position and is detected from 25-30% to 50% of cases (grade II-III adenoids, hypertrophy of the palatine tonsils, chronic tonsillitis, sinusitis, tonsillar disease, etc.).

Diseases of the Pirogov -Waldeyer lymphoid pharyngeal ring are the most common type of chronic pathology in CBD. It is this part of the lymphoepithelial tissue associated with the mucous membranes of the respiratory tract that is subjected to intense antigenic load and all the parameters of local immunity are formed here[9].

These children are a typical example of a secondary immunodeficiency condition, the correction of which is a necessary component of the treatment and management regimens of these patients[1,7]. Considering that the lymphadenoid pharyngeal ring is the most important secondary organ of the immune system responsible for the formation of factors of nonspecific resistance and antigen-specific immune response in situ, chronic infection-dependent processes in this tissue naturally affect the state of the immune system as a whole[3].

In this regard, the morphofunctional analysis of this tissue in inflammatory diseases of the upper respiratory tract in BCD using modern immunohistochemical methods is highly informative[6]. The prospects of such an approach are also confirmed by the data that changes in the local immunity system in BCD are transient and correctable[5,8].

With hyperplasia of the lymphoid pharyngeal ring tissue (in particular, adenoid vegetations) and concomitant inflammation, the primary viral infection, which is dominant in BPD, finds favorable conditions for persistence and immunosuppressive effects on the effector mechanisms of local immunity[2].

The destructive effect of viral infection on the functional state of lymphoid tissue serves, in turn, as a "trigger" mechanism for triggering infection-dependent immunopathological conditions, as well as autoimmune reactions. At

the same time, lesions of the nasopharyngeal tonsil in the form of adenoid vegetations and adenoiditis are most common [4]. These lesions account for more than 50% of all cases of pathology of ENT organs in CBD.

The system of local immunity in CBD has been studied by many authors. As a rule, these studies concerned the quantitative assessment of certain parameters of saliva immunity (sIgA and other classes of serum immunoglobulins, the level of lysozyme, properdin, bactericidal activity of saliva), as well as the cellular composition of flushes from the oral and nasopharyngeal region, including immunophenotypic characteristics[7].

The general pathomorphology of the lymphoid pharyngeal ring has also been sufficiently studied. There are also data in the literature on some immunohistochemical characteristics, such as the distribution of CD45-RO, CD45-RA, CD20+, CD3+ cells, as well as isotype-specific Ig-producing cells. However, we have not found systematic immunohistochemical studies of cellular inflammatory infiltrate, pathophysiological consequences of these events and the relationship of these parameters with clinical and anamnestic data in the literature available to us[1].

The immunohistochemical study of the zone of the so-called lymphoepithelial symbiosis, or reticulation of the epithelium of adenoid vegetations, i.e. those zones of lymphadenoid tissue where there is close contact between lymphoid cellular elements and the epithelium, deserves special attention.

Currently, this zone is considered as an immunoregulatory zone, which determines not only the induction of an immune response by cellular or humoral type in situ, but also as a zone determining the phenomenon of the so-called "homing" of lymphocytes. Antigen-presenting cells that "trigger" the immune response are localized mainly in the zone of lymphoepithelial symbiosis [6].

The study of the relationship between immunohistochemical parameters and clinical and anamnestic data is also relevant from the point of view that such

information allows us to purposefully develop therapeutic, diagnostic and prognostic criteria for the management of CBD. Studies of this kind have not been conducted in our country.

Thus, a comprehensive clinical and immunohistochemical study of the features of local immunity in BCD has great scientific and practical significance in terms of clarifying the specific mechanisms of pathogenesis, diagnosis and, consequently, etiologic and pathogenetic therapy of the secondary immunodeficiency condition, so characteristic of the BCD group.

The purpose of the study. To study the features of local immunity in BCD by immunohistochemical parameters in the surgical material of adenoid vegetations and palatine tonsils, as well as to assess the clinical significance of the results obtained.

Materials and methods of research. We selected a total of 60 frequently ill children with adenoid disease.

The results of the study. The state of local immunity in frequently ill children with adenoid vegetations and chronic tonsillitis, studied by methods of modern immunohistochemistry, is distinguished by its functional failure, which causes the chronization of the inflammatory process in the lymphoid pharyngeal ring.

Inflammatory infiltrate in chronic adenoiditis and tonsillitis was characterized by the intensive presence of immunocompetent cells of hematogenic origin CD3+, CD4+, CD8+, CD20+, as well as resident cells of the macrophage-monocyte series - CD68+ and CD35+, which actively participated in the development of exudative-proliferative inflammation in situ. T-lymphocytes (CD3+, CD4+, CD8+ cells), B-lymphocytes (CD20+ cells) and macrophages (CD68+ cells) had the ability to form zones of lymphoepithelial symbiosis in frequently ill children.

The main immunomorphological changes in the lymphoid pharyngeal ring in chronic adenoiditis and tonsillitis were reduced to hyperplasia of CD20-

positive lymphoid follicles (intense DAD-positive reaction to proliferative AT Ki67), pronounced expression of anti-apoptotic protein bcl-2 on mononuclear cells in the interfollicular spaces and active participation of CD3+, CD4+, CD8+, CD20+ phenotype cells, as well as IgG-, IgA- and IgM-producing cells in the inflammatory process.

All Ig-producing cells (IgG, IgA, IgM) are represented in the tissue of adenoids and tonsils in BCD, with the main localization of IgG-producing cells being lymphoid follicles, interfollicular zones and the surface of the epithelium, IgA-producing cells being subepithelial spaces and the surface of the epithelium, and IgM-producing cells being lymphoid follicles and the surface epithelium, however, these components of local immunity do not provide full protection of the mucous membranes from infectious agents.

The study of the strength of the connection between the complex IHC parameters of the surgical material of the lymphoid pharyngeal ring and the clinical and anamnestic data in BPD showed the presence of reliable connections in most cases involving IgG-, IgA-, IgM-producing cells.

In patients with a combination of chronic tonsillitis and chronic adenoiditis, the number of IgA+ and IgM+ cells significantly increased, which indicates the mobilization of local immunity reserves in conditions of chronic inflammation.

An increase in the degree of hyperplasia of adenoid vegetations from II to II-III is accompanied by a significant increase in the presence of IgM-producing cells in the tissue of the surgical material and a simultaneous decrease in the number of IgA+ cells. In the same cases, a moderate presence of CD68+ phenotype cells in the tissue is determined by cell density.

In patients with a disease duration of 2 to 5 years, the number of IgG+ cells in the lymphoid pharyngeal ring tissue significantly increases, and in patients with a disease duration of more than 5 years, the number of cases with the absence of IgM-producing cells significantly increases.

The results of the conducted studies allow us to recommend methods of immunohistochemistry in the comprehensive assessment of the immune status of frequently ill children.

Conclusion. Based on the data obtained, the state of the lymphadenoid pharyngeal ring in BPD, responsible for local immunity of the oral cavity and pharynx, is characterized. This characteristic is based on data from immunohistochemical studies, which is more informative compared to the known data on the state of local immunity by humoral and cellular factors of saliva or flushes from the oral or nasopharyngeal region.

The data obtained are extremely important for the development of diagnostic and differential diagnostic criteria for diseases of the JIOP organs in BCD. The data obtained make it possible to reasonably recommend the inclusion of immunohistochemical methods for the study of surgical and biopsy material of the lymphoid pharyngeal ring in a comprehensive assessment of the immune status of BPD.

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