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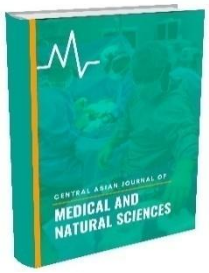

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Pathological Anatomy Against the Background of Immunodeficiency of Pneumonia in Children

1. **Komiljon Zakirjanovich Kadirov**
2. **Kadirov Obidjan Zakirjanovich**
3. **Abduvalieva Chulpanoy Mukhammadzhonovna**

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[1,3] Candidate of Medical Sciences, Assistant of the Department of Pediatric Surgery, Andijan State Medical Institute

[2] Candidate of Medical Sciences, Assistant of the Department of Medical Biology and Histology Andijan State Medical Institute

Abstract: Immunodeficiency in children is a condition that develops as a result of the loss of one or more links of the immune system. These conditions manifest themselves in recurrent and severe infections and, most likely, in the frequency of autoimmune manifestations and increased tumor formation.

According to the latest WHO definition, in cases of immunodeficiency, pneumonia is a group of acute inflammatory lung diseases with respiratory tract damage. A special, severe course with a high risk of death occurs in children under the age of 1 year (about 2% of child deaths), in elderly people with severe chronic diseases (usually neurological profile) and in people with primary and secondary immunodeficiency.

Key words: immunodeficiency, pneumonia, childhood, pathological anatomy.

Introduction. Among the total number of diseases occurring among children, pneumonia occupies one of the main places: the most frequent reason of visit to doctors (more than 40%) is acute catarrhal and pneumonia of respiratory tract.

In institutions of children's hospitals, the main contingent consists of patients with acute, recurrent and chronic respiratory diseases. Joining pneumonia to acute infectious diseases (measles, whooping cough, dysentery, flu) in children of the first three years of life complicates the course of the main disease and worsens its prognosis.

Among the common causes of death among children, pneumonia in children in the first months of life ranks among the first. Repeated and chronic pneumonia often leads to delayed physical development of the child in all periods of childhood and disorders not only of the respiratory organs, but also of functions of the cardiovascular and nervous systems, because prolonged disorders of oxidative processes inevitably affects the development of high activity.

Sources of chronic pneumonia and bronchiectatic diseases in middle school age and adults in most cases are recurrent pneumonia in early age.

In recent decades, overall mortality from pneumonia has decreased significantly due to the fact that the population is susceptible to the disease for whatever reason (frequent upper respiratory tract catarrh,

adenoids), due to extensive use of general health measures and prevention of pneumonia in children, as well as existing problems are eliminated.

A. I. Strukov and I. M. According to Kodolova, in cases of immunodeficiency bronchopneumonia naturally localizes in some lung segments. At the same time, the degree and angle of exit of segmental bronchi from lobular ones as well as its direction matter. The fact that the segmental bronchi go at right angles worsens the conditions of aeration, and the same degree of displacement of several segmental bronchi simultaneously contributes to the coverage of several segments by the inflammatory process. Thus, in the upper lobes, segments 1 and 2 are often affected because their bronchi extend to the same level. In the lower lobes, segments 9, 10, and 6 on the right and segments 4 and 5 on the left are often affected. The 6-segment is most often affected by isolation because the corresponding segmental bronchi are at right angles from the lobes and exit above the exit of the other segmental bronchi.

In cases of immunodeficiency, in addition to the mode of spread of bronchioedema, the inflammatory process within the segment can pass from the asinus to the lobe and from the lobe through direct contact with the lobe as well as lymphogenesis. Bronchoneuemonia in children, especially in newborns, tends to spread because the child's lungs are rich in loose connective tissue and contain a wide anastomotic lymphatic pathway. In addition, the hematopoietic pathway of the causative agent is important for a number of infections of a certain nature (e.g., influenza). In such cases, peripronchitis and perivasculitis are morphologically observed with transition to the surrounding lung tissue.

With a large volume of lesions, a feature of bronchopneumonia in children is a variety of the overall appearance of the lungs, which is due to the alternation of damaged areas of different ages with dark areas of atelectasis and slightly swollen amphysematous areas.

A distinctive feature of pulmonary exudate in bronchopneumonia in children is the presence of a large amount of alveolar epithelium in it, especially at the beginning of the process. This indicates a high proliferative capacity of the daughter tissue, as alveolar cells desquamation should occur before their rapid spreading. This is also evidenced by the relative frequency of gigantocellular pneumonia in children (M.A. Skvorsov, S.A. Babushka). Some researchers link the origin of gigantocellular pneumonia with a particular virus, while others give them the idea that it is caused by a specific gigantocellular pneumonia virus, which is present in one of the listed infections. In gigantocellular pneumonia both in the alveolar cavity and in the interstitial and bronchial epithelium large multinucleated cells are present, and in such cases we can speak of effective inflammation of the lung tissue, which develops acutely.

Objective of the study. To study pathological anatomical changes at pneumonia in immunodeficiency cases in children.

To solve our task we studied pathologoanatomic changes in children with pneumonia, observing cases of immunodeficiency in 65 children.

Research results. In children aged 3-15 years focal forms of pneumonias prevail (89.8%) with vague clinical picture (only 78% of cases have local symptoms) and a weak inflammatory response (leukocytosis - less than 15% of cases, bacilliform neutrophilia - in 20% of cases); segmental forms make up 10%, of them 40% - with complications, inflammatory response is brighter (leukocytosis in 40% of cases, bacilliform neutrophilia in 30% of children).

Among inflammatory markers in hemogram informative at differential diagnosis between pneumonias and acute respiratory infections/bronchitis only accelerated sedimentation rate (x2=3.8 for level over 15 mm/h (p=0.05) and x=5.53 for level over 20 mm/h (p=0.019).

More than 70% of VP of children 3-15 years old have mixed virus-bacterial etiology: in 72% of cases pneumonia developed against the background of ARVI, 40% of patients had acute phase antibodies to rhinosyncytial virus, 45% - to adenovirus; detection of PC- and AB-infection markers was not associated with the age and resistance level of patients.

Impaired resistance in 65% of children with VP; in the absence of rehabilitation, it worsens 1.5-fold during the next 3-6 months after recovery, the need for antibiotics at recurrent ARIs increases; the proportion of patients with low and very low resistance increases by 3.6 times by the end of a year of follow-up.

The high proportion of patients with low resistance and mixed virus-bacterial EP gives grounds to recommend the use of drugs with antiviral activity on the prophylactic scheme and non-specific immunomodulator (glucosa minyl muramyl dipeptide) during recuperation, which allows to stabilize resistance and reduce the need for antibiotics in the first 6 months after recovery.

Conclusion. In the light of the above said, it seems necessary to study changes of immunologic status in more details and develop complex schemes of therapy and rehabilitation, normalizing lipid and protein metabolism, stimulating antioxidant protection, modulating immunologic reactivity in children, who had or had suffered from pneumonia.

List of References:

1. Vojtovich, T.N. Modern approaches to treatment of acute community-acquired pneumonia in children / T.N. Vojtovich // Medical Panorama. - 2002. -№9. - C.41-43.
2. Dementieva G.M., Ryumina I.I., Kushnareva M.V. Actual problems of pulmonology of newborns / G.M. Dementieva, I.I., Kushnareva M.V. // Russian Bulletin of Perinatology and Pediatrics. - 2001. - №5. - C. 14-18.
3. Kaganov, S.Y. Pulmonology of childhood and its urgent problems / S.Y. Kaganov, N.N. Rodinova // Russian Bulletin of Perinatology and Pediatrics. - 2000. - №6. - C.6-11.
4. Tatochenko, V.K. Antibacterial therapy of pneumonia in children / V.K. Tatochenko, E.V. Sereda, A.M. Fedorov // Antibiotics and chemotherapy. -2000. - №5. - C.33-39.
5. Frolova, N.A. Concentration of immunoglobulins of classes 0, M, A, E in the blood of newborn children depending on the health status of the pregnant woman / N.A. Frolova, E.A. Fedosov, T.G. Avdeeva // Bulletin of Smolensk Medical Academy. - 2000. - №3. - C.66-67.
6. Epidemiologycal and clinical study of viral respiratory tract infections in children from Italy / M. Fabiani, C. Terrosi, Martorelli [et al.] // Journal of Medical Virology. - 2009. Vol. 81. - P. 750-756.
7. Ostapchuk M, Roberts D.M., Haddy R. Community-Acquired Pneumonia in Infants and Children // J. American Family physician. - 2004. - Vol. 70. -№ 5. - P. 899-908.
8. Viruses thoracic sosiety guidelines for management of community acquired pneumoniae in children / N. Harris, J. Clark, N. Coote [et al.] // Thorax. - 2011. - Vol. 66 (6). - P. 548-569.
9. Woodhead M., Blasi F., Ewig S. Guidelines for the management of adult lower respiratory tract infections // Eur. Respir. J. - 2005. - Vol. 26. -P. 1138-1180.
10. MI Kamalova, S Khaminov, B Eshboltaeva Morphometric features of bronchial epithelium development in rabbits in postnatal ontogenesis
11. Khodjieva D. T., Khaydarova D. K. Clinical and neuroph clinical and neurophysiological ch ogical characteristics of teristics of post-insular cognitive disorders and issues of therapy optimization. Central Asian Journal of Pediatrics. Dec.2019. P 82-86

12. Khushvakova N.J., Khamrakulova N.O., Ochilov T.M. Outcome analysis of patients with chronic odontogenic maxillary sinusitis // Scientific Reviewer. 2019. C. 33-36.
13. Khamrakulova N.O., Khushvakova N.J. et al. Application of ozone and local antiseptic solution in patients with purulent otitis media on the background of chronic leukemia //Russian Otorhinolaryngology. 2012. C. 178.14 Sadriddin Sayfullaevich Pulatov. (2022). Efficacy of ipidacrine in the recovery period of ischaemic stroke. World Bulletin of Public Health, 7, 28-32.
14. Tukhtarov B.E., Comparative assessment of the biological value of average daily diets in professional athletes of Uzbekistan. Gig. Sanit., 2010, 2, 65–67.