



CLINICAL AND LABORATORY FEATURES OF ACUTE RESPIRATORY DISEASES IN FREQUENTLY ILL CHILDREN

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Annotation

The aim of the study was to study the clinical and laboratory features of acute respiratory diseases in frequently ill children. Under our supervision there were 100 patients who were divided into 4 groups. The study showed that the most vulnerable are those belonging to group I in the background, with the presence of chronic foci of infection, with reduced functional activity of the ICC, an indicator of which is the identification of an imbalance in the immune status of children, including the IFN system, secretory cellular immunity. Diseases in this group of FICH are characterized by a prolonged course, more frequent development of complications and superinfections.

Keywords: often sick children, leukocytes, ARVI, premorbid background.

КЛИНИКО-ЛАБОРАТОРНЫЕ ОСОБЕННОСТИ ОСТРЫХ РЕСПИРАТОРНЫХ ЗАБОЛЕВАНИЙ У ЧАСТО БОЛЕЮЩИХ ДЕТЕЙ

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Аннотация

Целью исследования явилось изучить клинико-лабораторные особенности острых респираторных заболеваний у часто болеющих детей. Под нашим наблюдением было 100 пациентов который был разделен на 4 группы.

Исследование показало, что наиболее уязвимы ЧБД, принадлежащие к I группе по фоновому состоянию, с наличием хронических очагов инфекции, со сниженной функциональной активностью ИКК, показателем чего является выявление дисбаланса иммунного статуса детей, в том числе системы ИФН, секреторного клеточного иммунитета. Заболевания у данной группы ЧБД отличаются затяжным течением, более частым развитием осложнений и суперинфекций

Ключевые слова: часто болеющий деты, лейкоциты, ОРВИ, преморбидный фон.





Relevance

According to WHO, the annual incidence of influenza and acute respiratory viral infections (ARI), which occupies a leading place in the general infectious morbidity, is determined by a consistently high level, amounting in 2007 to 19,189.2 per 100 thousand population, including influenza - 350.2, and among children under the age of 17 - 63453.1 per 100 thousand population of this age (3.3 times higher than in adults), including influenza - 979.0 (2.8 times higher) and there is no downward trend [2,4,5].

The proportion of these diseases in frequently ill children (FICH) was 47.1-75.0% among all cases of ARI registered in children, i.e. almost more than half of all ARI in children are carried by representatives of this group [7,10].

In the domestic medical practice in the first half of the 80s of the last century, the term "frequently ill children" appeared [3,8], which is not used in foreign schools of pediatrics, and is absent in the International Classification of Diseases of the 10th revision. FICH is not a diagnosis, but a group of dispensary observation, including children with frequent respiratory infections that occur due to transient correctable deviations in the body's defense systems and do not have persistent organic disorders in them.

At the same time, many researchers disagree with this provision, and in addition, they believe that repeated respiratory diseases lead to disruption of the activity of many systems, including the suppression of functional activity and the development of an imbalance in the immune system, which, in turn, contributes to the emergence of new diseases, a vicious circle is formed. Frequent diseases in the first years of life are the basis for the formation of unstable immunity, and in some cases - the cause of the development of secondary immunodeficiency [1,6,9]. Frequent use of medications (nonsteroidal anti-inflammatory drugs, antibiotics, etc.) also contributes to the development of immunosuppression.

Such a high incidence of FICH, especially in the presence of a wide range of ARI pathogens, requires, along with the generally recognized practice of influenza vaccination, the vulnerable side of which is the narrow focus and difficulty in choosing the moment of its implementation, mandatory additional preventive measures. The most promising should be considered the use of funds with either a wider spectrum of antiviral activity or the ability to immunocorrection. Such drugs include adaptogens, interferons, and their inducers.





The Purpose of the Work

To study the clinical and laboratory features of acute respiratory diseases in frequently ill children.

Material and Methods of Research

The entire analyzed contingent was divided into 4 groups that differed from each other in the state of the premorbid background, while the child could be attributed only to one of the following groups: I - the presence of chronic diseases (ENT, renal, etc. pathology); II - with the presence of diseases of an allergic or infectious - allergic nature (respiratory or dermatoallergosis, BA); III - children of the first year of school attendance, IV- children who are disorganized and attend school for longer than 1 year without an established background pathology. Groups I and II of children comprised a contingent of children with conditionally unfavorable, and III and IV -with conditionally favorable premorbid background. The FICH group in the analyzed cases of diseases was 35.7%, with a statistically significant predominance (1.44 times) of boys (58.8% vs. 41.2%).

The Results of the Study and their Discussion

It is shown that if the representatives of groups II, III and IV of FICH in the acute period of acute respiratory infections, the normal content of leukocytes with normocytosis and a small rod-shaped shift of the formula prevailed in the blood, then the BPD of group I was statistically significantly more likely to detect either pronounced leukocytosis with neutrophilosis (especially in severe disease), or leukopenia and lymphopenia. Usually, during the period of early convalescence of the ARI (7-11 days), there was a tendency for a decrease in the content of leukocytes and ESR, as well as a decrease in the content of rod-shaped and segmented neutrophils with an increase in the relative content of lymphocytes and eosinophils (mainly in representatives of group I and II). There was a statistically significant decrease in CD3 content in FICH due to a decrease in CD4 levels. In addition, FICH of all ages had a low content of natural CD 16 killers and no statistically significant increase in CD20. That is, the balance of the immune system disturbed as a result of acute respiratory infections in FICH was not restored by the recovery period. A statistically significantly low (relative to normal) content of sIgA in nasal secretions was shown in the majority of CBDs, which indicates a decrease in the protective function of the nasopharyngeal mucosa. The lowest level of sIgA (0.6 ± 0.01 micrograms/ml) was determined in group I of FICH, By the period of early convalescence in all observed groups there was a continuing decrease in the number of children with normal levels of sIgA, most



pronounced in FICH, which was accompanied by a decrease in their resistance, manifested by more frequent development of complications and GI. The level of induced production of both IFN- α and IFN- γ was higher in all RBD, in contrast to FICH, which indicated a faster recovery of the functional activity of the ICC, coinciding with a reduction in the recovery time of these children. It was revealed that the production of IFN is characterized by a high potential for recovery to normal characteristics during recovery in about half of patients of groups III and IV of FICH, which is the basis for the possibility of preventive measures.

Conclusion

The most vulnerable are those belonging to group I in the background, with the presence of chronic foci of infection, with reduced functional activity of the ICC, an indicator of which is the identification of an imbalance in the immune status of children, including the IFN system, secretory cellular immunity. Diseases in this group of FICH are characterized by a prolonged course, more frequent development of complications and superinfections.

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