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THE USE OF IMMUNOTHERAPY IN CHILDREN WITH RECURRENT BRONCHITIS

ABSTRACT

Recurrent bronchitis in childhood can lead to negative consequences in the form of sensitization and allergic diseases, including bronchial asthma.

The aim: to research the clinical and immunological efficacy of broncho-vaxom in the group of children with recurrent bronchitis.

Materials and methods: we examined 50 children with recurrent bronchitis (monthly) on the basis of allergo-immunological Department National Hospital №1 of Republik Sakha (Yakutskia). All children surveyed: general blood test and determination of the immune and cytokine status. 25 children received the drug, broncho-vaxom application of expectorants and mucolytic agents, another group (25 children) received only expectorants and mucolytic drugs.

Results: in the analysis of changes of the immune status revealed the greatest decline in T-cell component and components of complement in children with recurrent bronchitis. In children with recurrent bronchitis increased levels of CIK, a reduced level of IFN-γ FNO-ά. 25 examined children with recurrent bronchitis medication used broncho-vaxom representing the lyophilisate of bacteria inhabiting the respiratory tract. The therapy was carried out ten-day course (1 capsule per day) for three months. In the analysis of changes of the immune status revealed an increased level of performance of T-cell (CD3+, CD4+, CD8+, CD16+) and immunoglobulins (IgA), the C4 component of compliment, as well as indicators of the level of blood cytokines (IL-1, FNO-ά).

Conclusions: as a result of drug therapy of broncho-vaxom marked improvement in immune status and the absence of recurrence of bronchitis for the next 3 months after the therapy.

Keywords: bronchitis, immune status, immunocorrection, sensitization, efficiency, cytokines, immunoglobulins

INTRODUCTION

Recurrent bronchitis in childhood can lead to negative consequences in the form of sensitization and allergic diseases, including bronchial asthma. Recurrent bronchitis is an inflammation of the bronchi, which are repeated in the course of the year 3 times or more, when the duration of each exacerbation for at least 2 weeks. The majority of domestic and foreign pediatricians believe that children are specific recurrent bronchitis, and chronic bronchitis in children is always secondary, developed in other diseases and pathological conditions of respiratory system [1,2,3,4,5,6,7,8,9].

In the formation of recurrent bronchitis in children a specific role of endogenous and exogenous factors. Among the endogenous determinants of the development of the disease include: family history (diseases of the respiratory tract in parents and sibs about 75% of the observations), belonging to blood group 0(1), constitutional features (lymphatic and exudative-catarrhal anomalies Constitution), premorbid background (adverse antenatal period, fetal hypotrophy, rickets, etc.).

The use of immunomodulators is a topical method of treatment in children with recurrent bronchitis [1,2,3,4,5,6,7,8,9].

The aim of the study: to Study clinical and immunological efficacy of broncho-vaxom (manufacturer "Takeda") in the group of children with recurrent bronchitis

MATERIALS AND METHODS

The study included 50 children with recurrent bronchitis (monthly) on the basis of allergo-immunological Department National Hospital №1 of Republik Sakha (Yakutskia) Yakutsk. All children surveyed: general blood test and determination of the immune and cytokine status. 25 children received the drug, broncho-vaxom application of expectorants and mucolytic agents, another group (25детей) received only expectorants and mucolytic drugs.

THE RESULTS OF OWN RESEARCH

In the analysis of changes of the immune status revealed the greatest decline in T-cell component and components of complement in children with recurrent bronchitis. In children with recurrent bronchitis increased levels of CIK, a reduced level of IFN-γ FNO-ά, IL-1. IgA levels are reduced, levels of IgM, IgG did not differ significantly from normal values (Table1).

25 examined children with recurrent bronchitis medication used broncho-vaxom representing the lyophilisate of bacteria inhabiting the respiratory tract. The therapy was carried out ten-day course (1 capsule per day) for three months. All patients were observed for 3 months after receiving the drug therapy of broncho-vaxom, recurrent bronchitis none of the children was not recorded.

In the analysis of changes of the immune status revealed an increased level of performance of T-cell (CD3+, CD4+, CD8+, CD16+) and b-cell immunity (IgA), the C4 component of compliment, as well as indicators of the level of blood cytokines (IL-1, FNO-ά)(таble2).

CONCLUSIONS

As a result of drug therapy of broncho-vaxom marked improvement in immune status and the absence of recurrence of bronchitis for the next 3 months after the therapy.

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Table 1

Indicators of immune status in children of Sakha (Yakutia) in children with recurrent bronchitis and healthy children (n = 100)

Indicators	Children with recurrent bronchitis (n = 100) M ± m	Healthy children (n = 100) M ± m
CD3+	19,2 ± 1,03	27,2±1,04*
CD4+	11,9 ± 0,5	21,3±0,6*
CD8+	16,9 ± 0,8	12,1±2.5
CD16+	7,1 ± 1,2	11,0±1,01
IRI	0,7 ± 0,6	1,08±0,02
IgA	1,6 ± 0,1	2,9±0,6*
IgG	12,2 ± 0,7	17,1±0,09
IgM	1,8 ± 0,08	2,2±0,09
CD22+	13,9 ± 1,2	24,6±0,7*
C3	0,23 ± 0,02	0,5±0,04*
C4	0,11 ± 0,02	0,26±0,03*
CIK	186,2 ± 1,5<0,05	70±0,07
IL-1	0,21 ± 0,001	0,49±0,07*
IFN-γ	0,16 ± 0,01	0,6±0,05*
FNO-ά	0,32 ± 0,01	0,78±0,07*

*p < 0.05 between norms and obtained values in each group.

Table 2

Indicators of immune status in children of Sakha (Yakutia) in children with recurrent bronchitis before and after drug therapy broncho-vaxom

Indicators	Children of Sakha (Yakutia) in children with recurrent bronchitis before drug therapy broncho-vaxom (n = 100) M ± m	Children of Sakha (Yakutia) in children with recurrent bronchitis after drug therapy broncho-vaxom (n = 100) M ± m
CD3+	19,2 ± 1,03	61,4±3,04*
CD4+	11,9 ± 0,5	26,6±0,75*
CD8+	16,9 ± 0,8	15,4±3.5*
CD16+	7,1 ± 1,2	16,0±1,01*
IRI	0,7 ± 0,6	1,72±0,04
IgA	1,6 ± 0,1	2,5±0,09*
IgG	12,2 ± 0,7	16,5±1,09
IgM	1,8 ± 0,08	2,5±0,09
CD22+	13,9 ± 1,2	21,6±0,97
C3	0,23 ± 0,02	0,4±0,05*
C4	0,11 ± 0,02	0,3±0,03
CIK	186,2 ± 1,5<0,05	50±0,07
IL-1	0,21 ± 0,001	0,54±0,03*
IFN-γ	0,16 ± 0,01	0,32±0,04
FNO-ά	0,32 ± 0,01	0,78±0,07*

*p < 0.05 between norms and obtained values in each group.