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ЖУРНАЛ КАРДИОРЕСПИРАТОРНЫХ ИССЛЕДОВАНИЙ

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ЭФФЕКТИВНОСТЬ ВКЛЮЧЕНИЯ ГАЛАВИТА В КОМПЛЕКСНУЮ ТЕРАПИИ ОСТРОЙ ПНЕВМОНИИ, ВЫЗВАННОЙ ГРАМОТРИЦАТЕЛЬНЫМИ БАКТЕРИЯМИ

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АННОТАЦИЯ

В настоящее время инфицирование грамотрицательными бактериями приобретает особую актуальность в детском возрасте, в связи с возрастающим участием возбудителя грамотрицательных бактерий пневмонии, то есть атипичной пневмонии (АП), в развитии не только острых воспалительных процессов верхних и нижних дыхательных путей, но и у части больных — в формировании рецидивирующих и хронических заболеваний органов дыхания, за счет длительного внутриклеточного существования в ретикулогистиоцитарной системе организма и макрофагах. При наблюдении за 90 детьми в возрасте 4–14 лет изучена эффективность включения низкомолекулярного индуктора интерферона Галавита в комплексную терапию верифицированной острой респираторной грамотрицательной пневмонии, протекающей на отягощенном преморбидном фоне (респираторная аллергия, бронхиальная астма, частые ОРЗ) оказался эффективным. У получавших Галавит сократилась продолжительность лихорадочного периода, интоксикации, катарального синдрома в носоглотке и легких, бронхообструкции, улучшились показатели иммунного статуса.

Ключевые слова: грамотрицательная пневмония, преморбидный фон, дети, иммунитет, галавит.

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EFFECTIVENESS OF INCLUDING GALAVIT IN THE COMPLEX THERAPY OF ACUTE PNEUMONIA CAUSED BY GRAM-NEGATIVE BACTERIA

ANNOTATION

Currently, infection with gram-negative bacteria becomes especially relevant in childhood, due to the increasing participation of the pathogen gram-negative bacteria, pneumonia, that is, atypical pneumonia (AP) in the development of not only acute inflammatory processes of the upper and lower respiratory tract, but also in some patients — in the formation of recurrent and chronic diseases of the respiratory system, through prolonged intracellular existence in the reticulohistiocytic system of the body and macrophages. In the observation of 90 children aged 4–14 years, the effectiveness of including the low molecular weight interferon inducer Galavita in the complex therapy of verified acute respiratory gram-negative pneumonia occurring on a aggravated premorbid background (respiratory allergy, bronchial asthma, frequent ARI) was shown to be effective. In those who received Galavit, the duration of the febrile period, intoxication, catarrhal syndrome in the nasopharynx and lungs, bronchial obstruction was reduced, and the immune status indicators improved.

Keywords: gram-negative pneumonia, premorbid background, children, immunity, galavit.

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GRAM-MANFIY BAKTERIYALI O‘TKIR PNEVMONIYANI KOMPLEKS DAVOSIGA GALAVIT DORI MODDASINI KIRITISH SAMARADORLIGI

ANNOTATSIYA

Hozirgi vaqtda gram-manfiy bakteriyalar bilan kasallanish ayniqsa bolalik davrida dolzarb bo'lib qolmoqda, chunki gram-manfiy bakteriyalar, pnevmoniya, ya'ni atipik pnevmoniya (AP) nafaqat yuqori va pastki nafas yo'llarida o'tkir yallig'lanish jarayonlarining rivojlanishida qo'zg'atuvchining ko'payishi bilan bog'liq, balki ba'zi bemorlarda - tananing va makrofaglarning retikulohistotsitik tizimida uzoq vaqt davomida hujayra ichidagi mavjudligi orqali nafas olish tizimining takroriy va surunkali kasalliklarini shakllantiradi. 4 yoshdan 14 yoshgacha bo‘lgan 90 nafar bolaning kuzatuvida past molekular og‘irlikdagi interferon induktori Galavit dorri moddasini premorbid fonda (nafas olish allergiyasi, bronxial astma, tez-tez ARI) yuzaga keladigan, tasdiqlangan o‘tkir respirator gram-manfiy pnevmoniyani kompleks davolashga kiritish samaradorligi aniqlandi. Galavitni qabul qilganlarda febril davrning davomiyligi, intoksikatsiya, nazofarenks va o‘pkada kataral sindrom, bronxial obstruksiya kamaydi va immunitet holati ko‘rsatkichlari yaxshilandi.

Kalit so‘zlar: gramm-manfiy pnevmoniya, premorbid fon, bolalar, immunitet, galavit.

Currently, infection with gram-negative bacteria becomes especially relevant in childhood, due to the increasing participation of the pathogen gram-negative bacteria, pneumonia, that is, atypical pneumonia (AP) in the development of not only acute inflammatory processes of the upper and lower respiratory tract, but also in some patients — in the formation of recurrent and chronic diseases of the respiratory system, through prolonged intracellular existence in the reticulohistiocytic system of the body and macrophages [1-6]. Gram-negative bacteria - pneumonia has a cytopathic effect on the epithelial cells of the respiratory tract, changing their metabolic activity, and disrupting the evacuation function. In addition, the pathogen directly affects the metabolism and genetic system of immunocompetent cells, blood cells and their precursors, distorts their structure and functions to varying degrees [2,5]. With the help of these mechanisms, the pathogen fixes its own persistence and determines a protracted and / or recurrent course of the inflammatory process [2,4,6].

In connection with the foregoing, in parallel with the development of etiotropic therapy, searches are being made for ways to prevent the possibility of reproduction of a persistent pathogen and, consequently, the development of a protracted and/or chronic infectious process. Given this problem, improving the schemes (methods) for the treatment of this infection seems to be extremely relevant, especially for patients at risk, and even more so in children[1,3,6].

Therefore, taking into account the data obtained so far on the properties of the drug "Galavit" is associated with its ability to regulate the functional and metabolic activity of innate and adaptive immunity (monocytes, macrophages, neutrophils, natural killers, and others). Galavit normalizes the phagocytic activity of monocytes / macrophages, the bactericidal activity of neutrophils and the cytotoxic activity of NK cells. At the same time, restoring the reduced activity of cells of innate and adaptive immunity, the drug increases the body's resistance to infectious diseases of bacterial, viral and fungal etiology, promotes faster elimination of the pathogen from the body, reduces the frequency, severity and duration of infections[6].

In inflammatory diseases, the drug reversibly (for 6-8 hours) inhibits the excessive synthesis of hyperactivated macrophages, interleukin-1, interleukin-6 and other pro-inflammatory cytokines, the level of which determines the degree of inflammatory reactions, their cyclicity, as well as the severity of intoxication of the body. Galavit reduces the production of reactive oxygen species by hyperactivated macrophages, thereby reducing the level of oxidative stress and protecting tissues and organs from the damaging effects of radicals. Normalization of excessively increased functional activity of phagocytic cells leads to the restoration of their antigen-presenting and regulatory functions, and a decrease in the level of autoaggression [2].

The drug is well tolerated, does not have an allergenic, mutagenic, embryotoxic, teratogenic and carcinogenic effect.

The aim of the study was the effectiveness of including in the complex therapy of verified acute pneumonia caused by gram-negative bacteria (OPVHB) occurring on a aggravated premorbid background (respiratory allergy, bronchial asthma, frequent ARI), a low molecular weight interferon inducer — Galavita.

Materials and methods of research. Under observation were 90 children aged 4-14 years, hospitalized in the pulmonology department of the ODMC in Andijan with verified gram-negative bacteria (GB), occurring against the background of a aggravated premorbid anamnesis. All patients belonged to the contingent of frequently and long-term ill (FIC) acute respiratory infections (ARI), with the presence of 2 or more foci of infection in the ENT organs; in addition, 86.7% of them were children with recurrent respiratory diseases, including bronchial asthma, respiratory allergosis (the so-called children "threatened by the formation of bronchial asthma"), and recurrent bronchial obstructive syndrome against the background of ARI .

By random sampling, according to the order of admission and verification by the express immunofluorescent method of etiological diagnosis (2: 1), 2 observed groups were formed: 60 children who received Galavit, in addition to basic therapy, 1 tab. daily up to 4 times / day. from the first day of the disease for 5-7 days according to the scheme specified in the instructions, and a comparison group of 30 people who received only basic, pathogenetic reasonable therapy.

The etiology of the disease was established: by express immunofluorescent method for detecting pathogen antigens in the epithelium of the nasal passages and the posterior pharyngeal wall with standard preparations of fluorescent antibodies, as well as serological (RSC, RTGA, RNHA and ELISA) and by determining the dynamics of the content of specific, short-lived antibodies in nasal secretions in RNGA .

In order to assess the effectiveness of Galavit, a clinical and laboratory comparison of the results of monitoring children included in these groups was analyzed. To achieve this goal, in addition to routine laboratory and instrumental research methods carried out in the pulmonology department, immunological tests were also used in the dynamics of observation with the determination of secretory immunoglobulin A (sIgA) in nasal washings, and in paired blood sera IgA, IgE, tumor necrosis factor (TNF -a), using standard ELISA kits. Indicators of the activity of total serum interferon (IFN), the production of spontaneous and induced interferon a and Y (IFN-a, IFN-y) in vitro, were determined by a biological method on L-41 cell culture, using the VVS test virus (State Research Institute of Influenza of the Russian Academy of Medical Sciences) [6].

Results and its discussion. As our previous studies have shown, the clinical manifestations of APVGB in children are significantly negatively affected by an unfavorable premorbid history, against which a respiratory infection occurs (especially the presence of recurrent respiratory diseases, bronchial asthma, foci of chronic infection) [2,5]. At the same time, both the presence of the GB pathogen and the course of infection initiate not only an attack of bronchial asthma and contribute to its more severe course, but also provoke the development of broncho-obstruction syndrome in other respiratory diseases. In addition, GB affects the formation and maintenance of immunosuppression with macrophage immunity deficiency, both throughout the disease and during convalescence, which, in turn, manifests itself in the long-term persistence of the inflammatory process in the respiratory tract, protracted, and often complicated infection.

After an AP infection in children with a non-smooth, protracted, complicated course, during a follow-up two-year follow-up, it was found that the HD antigen was repeatedly detected in half of the observed and examined contingent. At the same time, among patients with ongoing detection of the HA antigen, a significant predominance of the number of children with long-term respiratory diseases during the year (with a frequency of more than 6 times) was established than among children in whom antigens) were not subsequently detected. A similar pattern was also recorded in relation to the presence of ENT pathology, which was diagnosed in all children with a carriage of the

HD association. Immunological examination of patients during the follow-up period revealed persistent immunosuppression in children with prolonged release of the OPVGB antigen, especially a low content of secretory IgA and a high level of total IgE in the blood [2,5].

In the present study, in a comparative analysis of clinical symptoms in the observed 2 groups, it was found that the use of Galavit in combination with etiotropic, pathogenetic basic therapy contributed to a reduction in the duration of the acute period of the disease, with a significantly faster extinction of the main symptoms of the infectious process compared to the control group children (Table 1). In parallel with this, in diseases accompanied by bronchial obstruction syndrome (BOS), the introduction of Galavit in addition to basic, bronchodilator and anti-inflammatory therapy contributed to a faster elimination of symptoms of ventilation disorders (which was confirmed objectively clinically and by positive dynamics of peak flow measurements).

Table 1.

Duration of clinical symptoms in atypical pneumonia in children

Observed groups	Number of children	Duration of clinical symptoms in days (M ± m)					
		Tempera-ture reaction	Intoxication	Catarrhal syndrome in		BOS	Total disease
				naso-pharynx	lungs		
Galavit	60	3.4 ± 0.27	2.9 ± 0.2	4.3 ± 0.5	7.7 ± 0.7	3.3 ± 0.4	9.6 ± 0.8
Control	30	4.3 ± 0.4	4.5 ± 0.1	5.0 ± 0.4	10.3 ± 0.4	4.4 ± 0.3	12.1 ± 0.2
p < 0.05		+	+	-	+	+	+

The analysis of these immunity indicators showed that the signs of immunosuppression in children were present in both observed groups.

In addition, in 66.7% of cases, among those who received the drug, there was a recovery, and even a significant increase in the initially reduced content of sIgA in the nasal secretion as an indicator of the activation of local immunity and a factor of nonspecific protection, while in 1/2 patients of the control group this indicator remained unchanged at a low level and/or continued to decline (Table 2).

Table 2

Dynamics of the level of immunological parameters in children with gram-negative pneumonia during testing of the therapeutic efficacy of Galavit

Indicators	Healthy children, n = 50	The period of exacerbation		Remission period	
		Galavit, n=36	Control, n=20	Galavit, n=36	Control, n=20
IgG, g/l	8,40±0,25	5,34±0,28*	6,25±0,31*	5,52±0,21*	8,26±0,35
IgA,г/л g/l	0,57±0,03	0,36±0,04*	0,32±0,03*	0,43±0,03*	0,56±0,05
IgM, g/l	1,00±0,07	0,70±0,05*	0,62±0,07*	0,64±0,03*	0,95±0,04
IgE, IU/ml	94,00±25,9	434,54±51,2	455,41±58,90	422,60±47,2	201,25±39,18
sIgA, mkg/ml	2,5±1,5	0,7±0,07	0,9± 0,07*	0,7±0,06	0,7±0,1

Note: "*" - p<0.05-0.001 compared with the indicators in practically healthy children.

In parallel with the positive dynamics of sIgA in nasal secretions in children taking Galavit, there was also a positive dynamics of serum IgA, the content of which increased in 73.3% of patients, in contrast to the control group, where this indicator decreased in 50.0% of cases, and the average its values also decreased.

The safety of treatment with Galavit was evidenced by the absence of an increase in serum IgE concentrations in relation to the initial level in most patients, while in children from the control group this indicator increased in 70.0% of cases, which aggravated the maintenance of inflammation in children with atopy and a tendency to to bronchial hyperreactivity with the development of bronchial obstruction.

The results of the clinical and laboratory study carried out indicate the high efficiency and expediency of using Galavit in the complex treatment of children with APVGB of the respiratory tract, occurring against the background of a burdened premorbid history with a low health index.

Conclusions. The inclusion of Galavit in the complex therapy of APVHB, which occurs in children against the background of a burdened premorbid history, contributed to a more rapid elimination of the main symptoms of the infectious process and prevented a protracted course of the disease.

The introduction of Galavit had a positive effect on the functional activity of immunocompetent cells, contributing to the stimulation of interferon formation and the positive dynamics of IgA in blood serum, sIgA in nasal washings, thereby activating the nonspecific defense of the body, which is especially important in children with frequent and long-term illnesses with a history of allergic pathology.

There were no undesirable clinical manifestations and an increase in the content of total IgE in the blood serum of patients, which indicated the absence of a side effect of this interferon inducer on the body of a sick child.

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