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Rational Use Of Drugs In The Comprehensive Treatment Of Bronchoobstructive Syndrome In Children

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ABSTRACT

Treatment of bronchoobstructive syndrome in children and integrated use of drugs, that is, each drug should be pathogenetically justified, taking into account the individual characteristics of the child, and based on knowledge of the mechanism of their action and pharmacokinetics. It is necessary to have a complex effect on individual links of the pathogenesis of bronchoobstructive syndrome in many cases makes the use of complex drugs with combined mechanism of action justified. Thus, treatment of bronchoobstructive syndrome in children before a pediatrician is a responsible task, which consists in rational selection of medicines.

KEYWORDS

Treatment, children, inhalation, antioxidants, bronchoobstructive syndrome, antihistamines, hyperreactivity.

INTRODUCTION

Acute respiratory infections in children are a significant problem of modern pediatrics. Treatment of patients with severe forms of acute respiratory infections, which are often complicated by bronchoobstructive syndrome in children is very difficult: in addition to

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antiviral drugs (remantadine, arbitdol, etc.), specific immunoglobulins, interferon drugs, antibiotics, hormones, it includes a number of other pathogens, the effect of which is aimed at correcting impaired body functions. Of particular importance is the use in the treatment of severe forms of bronchoobstructive syndrome in children of drugs with antiprotease and antioxidant activity, as well as drugs that increase the immunobiological resistance of the body. At the same time, the domestic preparation antioxidant polyoxidonium, antiviral drug arbitdol, antiallergic lordes, as well as inhalation of the upper respiratory tract with nebutamol is used, which helps reduce the frequency of severe and complicated forms, adverse outcomes of infection, shortening the period of hospitalization.

MATERIALS AND METHODS

Therapeutic efficacy of the combination of drugs and antioxidant polyoxidonium, as well as inhalation of the upper respiratory tract with nebutamol, in the treatment of children with acute respiratory infections complicated by bronchoobstructive syndrome was studied.

We know that acute respiratory infections are caused by various viruses and bacteria that trap to the airway epithelium and contribute to the development of mucous membrane inflammation and launch a whole complex of pathophysiological reactions aimed at elimination of the pathogen. In some cases, the course of ARI is accompanied by the development of bronchoobstructive syndrome (BOS). In pathogenesis of BOS in children, the main importance is given to mucous membrane edema, inflammatory infiltration and violation of mucous membrane properties. In children, true bronchospasm is less pronounced due to increased sensitivity of cholinergic interreceptors of the autonomic nervous system or to beta-2-adrenoreceptor blockage. Inefficiency of short action beta-2-agonists is connected with these factors.

Inflammatory response in children with ARI is initiated by pro-inflammatory cytokines, in particular, interleukin-1, which contributes to the release into the peripheral bloodstream of type 1 mediators: histamine, serotonin, which are constantly present in fat cell granules and basophils. Under the influence of inflammatory mediators, i.e. histamine, serotonin, prostaglandins, leukotrienes, a symptom complex is formed with swelling of bronchial mucosa, hyper-secretion and bronchospasm, and further damage to the epithelium and formation of hyperreactivity; this process leads to a prolonged flow of inflammatory process.

The development of BOS in children is also facilitated by anatomical and physiological features of the respiratory tract, diaphragms, as well as pre-morbid background conditions such as burdened allergic anamnesis, hyperreactivity of bronchi, hereditary predisposition to atopy, prematurity, hypotrophy, diathesis, thymus hyperplasia, early artificial feeding, early debut of respiratory diseases, etc..

Adverse environmental factors, as well as passive smoking in the family (exposure to tobacco smoke violates the properties of bronchial secretion and mucociliary clearing, contributes to the destruction of the bronchial epithelium) may contribute to the increase in the frequency of bronchial obstruction in ARI.

Obstructive syndrome is often found in ARI caused by respiratory syncytial virus (about 50%), parainfluenza virus, influenza viruses,

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adenovirus and BOS is a characteristic feature of typical and SARS pneumonia.

To normalize drainage function of the bronchi, expectorant and mucolytic drugs are prescribed on the dynamics, in case of hyper-secretion they are cancelled and replaced with drugs based on carbocysteine (ADC, etc.).

The object of the study were sick children aged 1 to 5 years, hospitalized with BOS in the children's department of the Urgench branch of the TMA clinic. A total of 72 patients were examined who were treated with polyoxidonium, inhalation of the upper respiratory tract with nebutamol as well as antiviral in the initial days after antihistamines (lords, etc.), and 42 patients were treated according to the standard only with essential drugs.

At the same time 80% of patients suffered from the disease of medium severe form and only 20% - in severe form (against the background of polyoxidonium, as well as inhalation of the upper respiratory tract with nebutamol), patients received in addition to basic therapy (BT). There were 20 children with similar pathology in the BT control group.

RESULTS

Patients with respiratory diseases using polyoxidonium and inhalation of the upper respiratory tract with nebutamol, in contrast to patients who received only basic therapy, there was a faster improvement in the general condition, reduced signs of intoxication and hypoxia of the brain.

Positive effect of polyoxidonium as well as inhalation of upper respiratory tract with nebutamol on functional changes of myocardium and lungs. It has been proved to contribute reliably to more frequent and positive dynamics and less often to the negative trend when analyzing the studied indicators. It is necessary to note positive influence of polyoxidonium, and also inhalation of upper respiratory tract with nebutamol, on external breathing recovery in comparison with the group of clinical control.

CONCLUSIONS

Polioxidonium, as well as inhalation of the upper respiratory tract with nebutamol, complex use of antihistamines, antiviral drugs is a modern and highly effective tool to combat intoxication and tissue hypoxia. Polioxidonium, as well as inhalation of the upper respiratory tract with nebutamol, may be recommended for wide introduction into practice of treatment of patients with acute respiratory diseases in children with emergency conditions.

Thus, the treatment of BOS in children and the integrated use of drugs, i.e. each drug should be pathogenetically justified, taking into account the individual characteristics of the child, and based on knowledge of the mechanism of their action and pharmacokinetics.

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