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COMPREHENSIVE DIAGNOSIS OF NERVOUS SYSTEM DAMAGE IN OLDER CHILDREN WITH BRONCHIAL ASTHMA

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ANNOTATION

In this article, using scientific literature, it is discussed about complex diagnosis of nervous system damage in older children with bronchial asthma, their complications and preventive measures for treatment.

Keywords: Bronchial asthma, pain, lungs, dysfunction, inflammation, pathology, virus, children.

INTRODUCTION

In recent years, much attention has been paid to the influence of comorbid pathology on the course of bronchial asthma (BA). Among the diseases that often accompany asthma, gastroesophageal reflux disease, chronic obstructive pulmonary disease (COPD), lipid metabolism disorders, tobacco smoking, respiratory infections, and dyshormonal disorders are especially highlighted. However, the most important role among the concomitant pathologies of asthma belongs to diseases of the upper respiratory tract (UR), in particular, allergic rhinitis (AR) and polyposis rhinosinusitis (PRS). This is determined by the high frequency of these diseases in patients with asthma, as well as their impact on achieving asthma control. According to various epidemiological studies, more than 85% of patients with asthma suffer from AR, and 10–40% of patients with AR are diagnosed with asthma [1–3]. Meanwhile, data on the incidence of asthma and PRS are heterogeneous: 45–76% of patients with PRS are diagnosed with asthma, of which 14% of patients have intolerance to nonsteroidal anti-inflammatory drugs (NSAIDs) [4, 5]. A clear connection between the development of PRS in patients with asthma and increasing age was found. Thus, it was noted that in patients with asthma over 40 years of age, PRS occurs 4 times more often than in patients under 40 years of age (12.4% versus 3.1%) [6].

Etiology and pathogenesis

Bronchial asthma, being predominantly one of the main links in the atopic march in children, once it occurs, it “accompanies” the patient all life. Chronic inflammation of the airways, which underlies the pathogenesis of bronchial asthma, determines the heterogeneity of the disease and is the cause reversible airway obstruction, characterized by recurrent respiratory symptoms - wheezing, shortness of breath, chest tightness and unproductive cough. Airway hyperresponsiveness is associated with excessive smooth muscle contraction in response to allergens, nonspecific irritants and viral infections. The cytokine cascade of an allergic reaction that develops in a sensitized organism upon repeated contact with an allergen, causes the development of allergic inflammation, tissue damage and contributes to narrowing and hyperresponsiveness of the airways.

Bronchial obstruction is initiated by a combination of edema, infiltration, increased secretion of mucus, contraction of smooth muscles and desquamation of the epithelium. To a large extent, these changes are reversible, but in severe cases, airway obstruction may be progressive and become permanent. Features of the etiopathogenesis of the disease are not determined only

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the principles of classification, but also approaches to the management of pediatric patients with asthma.

Classification

There are 3 types of bronchial asthma, these are:

Phase I (initial or relative compensation phase) is longer than 12 hours is a persistent and unstoppable suffocation attack. Broncholytic in patients resistance to drugs develops, mucus does not move. Hypocapnia and compensated alkalosis occur due to hyperventilationwill be.

Drainage activity of the bronchi to stage II (decompensation stage).

Characterized by a sudden breakdown. Their hole is filled with sticky mucus and that's it due to this, dry wheezes that were previously well heard disappear ("dumb lungs" stage). or syndrome). Blood gas content is disturbed, hypoxemia occurs. (O2 wire pressure 50-60 mm. above decreases to), hypercapnia (CO2 pressure 60 - 80 mm sim. above increases to).Asthmatic status in the absence of effective treatment.

Stage III, hypercapnic coma stage develops. hypoxemia,

As a result of worsening hypercapnia and acidosis (blood pressure of oxygen is 40

mm wire. above drops below, CO2 thousand blood pressure is 90 mm sim. above from increases) to severe neurological, including cerebral and hemodynamic disorders and may end with the death of the patient.

Diagnostic tests

With the help of X-ray during the period of exacerbation of chest organs high degree of transparency of the borders of the lungs during examination, the diaphragm is low standing and low mobility are recorded. Eosinophilia and lymphocytosis in blood tests is determined. Eosinophils in mucus obtained after an attack of bronchial asthma, Kurshman spirals and Sharko-Leyden crystals are found. Now, when diagnosing bronchial asthma, the body reacts to various allergens special skin tests are used to determine the reaction. Bronchial functional methods of examination to study permeability - spirography, pneumotachometry is used. Accompanying chronic bronchitis or chronic When zotiljam is detected, bronchoscopic and bronchographic examinations are performed.

Treatment

It is aimed at stopping the effect of one or another allergen on the patient's body measures (for example, the patient with certain plants during their flowering period restriction of contact, especially in case of food allergy, elimination use of diets, rational employment in the case of occupational allergies and others) will be seen. When the patient's reaction to certain allergens is determined specific in order to reduce the body's reaction to them trying to hyposensitize. In order to eliminate suffocation attacks, bronchial tubes are currently being used expanding selective β-adrenomimetic aerosols are widely used: orciprenaline sulfate (astmopent), terbutaline, salbutamol, fenoterol (berotek), etc. The dose of the tool is selected individually, often 2 breaths of a dosed aerosol consists of getting Also for treatment M - cholinolytic aerosols (ipratropium bromide or atrovent, berodual) are used. Also, patients and doctors use methylxanthines widely. For example, an attack of bronchospasm to eliminate it, theophylline is often injected slowly into a vein. Long-acting drugs of this group to prevent choking attacks it is prescribed to drink orally. As a symptomatic treatment, it improves mucus secretion and sputum expectorant and mucolytic agents are prescribed (thermopsis, Altei vein tincture, mukaltin, bromhexine, etc.). Chronic bronchitis is accompanied by exacerbation of bronchial asthma or antibacterial agents in case of

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exacerbation of chronic zoster will be appointed. Bronchial asthma is accompanied by severe suffocation attacks and glucocorticosteroids when the use of other drugs is ineffective will be appointed. About 20% of patients will need them. Usually in one day on average 15-20 mg of prednisolone, antacids (almagel, maalox), H2 histamine used together with blockers and proton pump inhibitors (morning in hours). The last group of drugs causes erosion and ulceration of the mucous membrane of the stomach protects against damage. After achieving the effect, the dose of the drug is gradually reduced (by 2.5 mg every 5-7 days), and then maintenance the dose is left (5-10 mg per day).

Implications

If asthma has a significant neurobehavioural component, the highly inheritable nature of asthma, as suggested by twin studies in which identical twins are far more likely to both have asthma than non-identical twins, could be due to mimicry. While psychologists define mimicry as the unconscious automatic repetition of behaviour performed by others, mimicry can also result in the repetition of autonomic responses.[48 49] Identical twins are more empathic to each other than non-identical twins. An identical twin is therefore more likely to have autonomically driven bronchoconstriction than a non-identical twin when confronted by their wheezy sibling. Such a mechanism might explain why the heritability of asthma cannot be explained genetically.[5] While allergic nasal symptoms as a trigger for the diving reflex might in part explain the relationship between atopy and asthma, this relationship is far more complex. There is now increasing epidemiological evidence suggesting that the atopic march's prevalence has been overstated and that the hygiene hypothesis is incorrect. These findings have reignited discussion about alternative models to better explain the pathophysiological and epidemiological processes that result in what may or may not be ongoing allergic disease.[50]

Conclusion

Bronchial asthma is the most common chronic lung disease in children, if uncontrolled significantly reducing the quality of life of patients. Many For years, childhood asthma has been studied in the institutions where the authors of this book work. The information presented in this monograph is intended to help look at the disease from a positions of an integrated approach, theoretical and clinical medicine. Particular attention is paid to the clinical and laboratory-instrumental diagnosis of asthma, and therapy is also described in detail. Difficulties in diagnosing asthma in childhood are associated with the high incidence of bronchial obstruction in children and a large number of asthma-like in their clinical manifestations of diseases, both acute and chronic. Therefore, the diagnosis of bronchial asthma in children in modern conditions should be based on a criteria-based approach, for example, the PRACTALL criteria, according to our experience of many years of use, have proven themselves to be highly informative, and therapy takes into account the individual characteristics of the patient (disease phenotype). At the same time, an urgent problem in the conditions of underdiagnosis of bronchial asthma is the need for a certain diagnostic alertness in relation to of this disease. Assistance to pediatricians, allergists, immunologists, and pulmonologists in the formation of such "asthmatic alertness" for timely diagnosis and prescribing adequate therapy was one of the goals of this publication.

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