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THE CONDITION OF BRONCHIAL ASTHMA IN CHILDREN IS EXACERBATED BY THE DISEASE WITHDRAWAL PROCESS

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Abstract:

An analysis is made of a possible prognosis of the development of autonomic dysfunction (VD) using multidimensional methods of mathematical analysis based on data characterizing the vegetative and psychoemotional statusof he body. The revealed correlation of the vegetative form with the indicators of the functional state of the body showed that both the vegetative and psychological components take part in the formation mechanism. Therefore, in diagnosing the form of autonomic dysfunction, in addition to the method for assessing heart rate variability and psychological tests, it is necessary to take into account the psychoemotional status of the body.

Keywords:

Bronchial asthma, thyroid status, childhood, vegetative status.

Introduction

In the last 15-20 years, allergic pathology has been considered as global, covering all continents and ages. In Russia, the incidence of bronchial asthma (BA) has increased 2-3 times over the past 2-3 decades and occupies a leading place among chronic respiratory pathology in children [3,7]. The prevalence of allergic diseases in childhood and adolescence is caused primarily by environmental pollution with chemical compounds that potentiate the early manifestation of a genetic predisposition to atopy, and only secondly by changes in lifestyle and nutrition, increased contact with exogenous allergens. In children in areas with increased anthropogenic load, the prevalence of AD is 1.8 times higher compared to ecologically cleaner areas.

The aggravating factor for the formation of AD are natural deficiencies of trace elements. According to WHO, 2 billion The inhabitants of the Earth live in conditions of iodine deficiency, which inevitably forms a high prevalence of endemic goiter, subclinical hypothyroidism, autoimmune thyroiditis [1,5].

Thyroid pathology contributes to a decrease in immunity, a violation of metabolic processes with the activation of free radical oxidation, an increase in respiratory viral and bacterial diseases. Thus, the formation of allergic pathology of the majority in childhood occurs under conditions of increased anthropogenic load and widespread natural iodine deficiency, with the combined effect of which additional pathogenetic links are formed that cause pathomorphosis of the disease [4,6].

A strumogenic factor supporting and aggravating the severity of goiter endemia is an increased content of toxic metals (lead, chromium, manganese, nickel), organic

compounds (benzene, toluene, methanol, acetone, xylene) in the body, as well as a deficiency of essential elements (reduced by 1.4 times, compared with the physiological norm, concentration zinc, magnesium, calcium, selenium) in the blood. At the same time, the problem of preventing the consequences of the combined effect of technogenic load and goiter endemia on the formation of AD in children is currently poorly studied. Existing methods of treatment and prevention of AD do not provide for the identification and correction of pathogenetically significant relationship of the disease with systemic exposure to chemical risk factors of geotechnogenic genesis. The question arises of optimizing and improving preventive measures for children living in iodine-deficient territories with a high technogenic load [2].

The Purpose of the Study

The aim of the study was to study the initial vegetative status and vegetative regulation in children with varying degrees of AD severity.

Materials and methods of research

86 children with BA aged from 12 to 18 years (49 boys and 37 girls) in the acute phase of the disease were examined. The duration of the disease varied from 5 to 14 years. The subjects were divided into 2 groups: group 1 consisted of 67 patients with moderate BA; group 2 included 19 patients with severe disease. In most cases (98.6%), the atopic form of AD was documented. Allergic anamnesis was burdened in 68.4% of cases, and in 42.8% of children one of the relatives suffered from asthma.

The results of the study

All subjects underwent a comprehensive clinical, laboratory and instrumental examination (ECG in 12 leads, FVD, peak flowmetry). To assess vegetative homeostasis, the initial vegetative tone (IVT), vegetative reactivity, and vegetative maintenance of activity were studied. The analysis of the initial data showed a significant range of fluctuations in the parameters of the KIG. Thus, the background values of IN varied in children of the 1st group from 24 to 1848 units, and in the 2nd group from 12 to 3023 units. At the same time, even in the control group of patients with sympathicotonia, this parameter did not exceed 408 conl. units. When evaluating IVT, according to the evaluation tables, it was found that among the sympathetic signs increased excitability, various variants of insomnia, hypertensive vascular crises, cephalgia, short-term cardialgia of a stabbing nature dominate. Parasympathetic signs were mainly represented by marbling of the skin with hyperhidrosis, a tendency to syncopal states, dizziness, migraine-like cephalgia, ischemic cardialgia, intestinal motility disorders.

Analysis of the parameters of the CIG showed (table) that in patients of group 1, the sympathovagus balance is characterized by a predominance of the sympathetic part of the

ANS at rest in the form of sympathicotonia (38.8%) or hypersympathicotonia (25.3%) compared with the control group (24 and 2%).

Conclusion:

Thus, changes on the part of the hormonal system in patients with AD are in a state of protective adaptation due to the rapid depletion of these processes in severe AD, which is accompanied by hormonal imbalance. Clinical manifestations of thyroid hypofunction are diverse, many of them are nonspecific, which is why certain difficulties are associated with its timely recognition. In this regard, we have made an attempt to identify specific complaints of patients with AD regarding the hypofunction of the thyroid gland.

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