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## TREATMENT OF ACUTE URTICARIA IN CHILDRENTËY

### ABSTRACT

The article is devoted to the urgent problem of acute urticaria (AU) in children. The analysis of the etiological factors of its formation is carried out. It was revealed that more often children with AU are sensitive to food allergens, in second place - to household allergens. The analysis of sensitization to food allergens revealed the highest percentage of sensitization to citrus. Very high sensitization is to the protein of cow's milk. When studying the effectiveness of antihistamines, it was found that the application of the erius preparation is the most optimal.

**Keywords:** allergology, allergens, sensitization, factors, urticaria rash.

### INTRODUCTION

For many years urticaria is one of the important but least studied problems in pediatric allergology. The disease is in the interests of doctors of various specialties: pediatricians, immunologists-allergists, dermatologists, infectious disease specialists.

At present, urticaria is a heterogeneous group of diseases characterized by formation of blisters (surface elements raised above the level of the skin and disappears in about 24 hours) and/or angioedema (swelling of the deeper layers of the skin and mucous membranes) [1- 3].

The prevalence of urticaria has been insufficiently studied. According to the literature, 15 to 25% of the total human population is suffering from urticaria [1- 3]. In this case chronic urticarial is registered in almost 30% of all cases of urticaria. According to the reports, in the general population it is 0.05-0.5%, and among children and adolescents - 2.1 to 6.7%.

The relevance of the study of urticaria for pediatrics is determined by the following factors:

1. The prevalence of the disease in children and adolescents.
2. Polyetiological disease - to determine the cause it requires complex clinical, laboratory and instrumental methods of examination.
3. Acute urticaria occurs more frequently than chronic.

**The purpose of the study:** to study the etiological factors of the formation and treatment of acute urticaria in children 1 to 14 years.

### MATERIAL AND METHODS

On the basis of allergological study in RB No. 1- NCM 69 children with chronic urticaria, aged 1 to 14 years were surveyed. Examination of patients was conducted according to the standards of diagnosis of allergic diseases and included a general clinical examination and specific allergy tests.

We conducted allergen testing to

value all children of the studied group with prick-tests to standard pollen allergens (early-flowering birch, alder, hazel, late-flowering -poplar, weed grasses - timofeevka, meadow grass, fire, sagebrush, reygras, dandelion, wheat grass) cereals (rye, oat, fescue). The severity of the skin reactions were evaluated +, ++, --. Comparison of averages will be conducted one-factorial dispersive analysis using T-student criterion to assess the equality of average F-Fisher criterion to assess the equality of variance. The relationship between parameters was assessed using the coefficients of the linear and rank correlation.

### THE RESULTS AND DISCUSSION

We studied 69 children aged from 1 year to 14 years. What is revealed in examined children the highest frequency of manifestations of urticaria in the age group of 7-10 years. That was 28%. In the age group of 4-6 years the incidence of manifestations of urticaria was 18%. Next, we carried out the etiological factors of the formation of acute urticaria in children of the examined groups.

When you run scratch tests for skin testing with allergens positive results were obtained in 57 (82,6%) of the 69 children examined. At the allergological examination, sensitization to domestic allergens was diagnosed in 84.2% of children, to pollen allergens from 59.6% of children to epidermal allergens have 54.3% of children to food allergens in 94.6% of children.

Thus, the study showed that the most number of children has sensitization to food allergens, then - sensitization to household allergens.

At analyzing sensitization to food allergens it is revealed that the highest percentage of sensitization to (37,7%) is to citrus (table). This group of patients is not recommended to use mandarin, orange, lemon, grapefruit. Very high sensitization is to the protein of cow's milk of 30.4%. These children are not recommended to use such dairy products

as cheese, yogurt, milk, cheese, and cow meat. To prevent this allergy definitely breastfeeding in infancy is needed. In case of impossibility of breastfeeding mixtures with split protein casein (hypoallergenic, Nutrilon, nestožen, similac it.d.) are recommended. In children allergic to cow's milk and allergic to whey protein in milk is recommended the introduction of therapeutic mixture, where the split casein and whey proteins (alpha - and beta-lactoglobuline). An example of such a mixture is Frisopep AC and Alfare.

According to Russian figures, sensitization to cow's milk occurs in 75% of children with food allergies [1-3].

From 18.8% of observed children sensitization to fish allergens is noted. Patients with such allergies are not recommended to eat different types of fish.

Children with allergy to chicken meat made 13%. These children are not recommended to eat chicken meat and egg and products containing them, the baking, confectionery cream. Allergic to duck amounted to 8.7%. Allergy to birds is connected with allergy to bedding from feather and fluff.

In the treatment of acute urticaria it is necessary to prescribe antihistamines and enterosorbents. So, 10 patients

**The frequency of sensitization to food allergens in children, according to the results of allergy testing**

Food allergies	Number of children, %
Milk	30,4
Fish	18,8
Nuts	5,7
Peanut	2,9
Egg	11,6
Rye flour	5,8
Wheat flour	5,8
Duck	8,7
Chicken meat	13
Pork	1,4
Horsemeat	4,3
Citrus	37,7

received aerijs in a dose of 2.5 ml for 10 days, another group of patients (10 children) - The disappearance of clinical manifestations of acute urticaria in 90% of children who was treated with aerijs and 70% of children - with cetirine. Thus, in children with acute urticaria the preparation of aerijs is more effective.

### CONCLUSIONS

1. In the distribution of children by age, sex and place of residence, more often acute urticaria occurs in the age group from 7 to 10 years (28%), in boys (55%) of the rural population (45%).

2. Among the etiological factors of acute urticarial are most common food

allergens - 94.6%, on citrus fruits - 37.7% and cow's milk protein - 30.4%.

3. In children with acute urticaria, the aerijs preparation is more effective than cetirine.

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## EXPERIENCE OF USING THE INDACATEROL FROM THE POSITION OF CARDIOVASCULAR SAFETY

### ABSTRACT

Clinical efficacy of inhalation therapy by Onbrez®Breezhaler® and examination of the effect on the leading clinical symptoms, quality of life (COPD Assessment Test), lung function, heart rate, QTc interval and the potassium level in blood in hospital patients with COPD were under study.

Based on the found evidence we can conclude that once daily administration of indacaterol at a dose of 150 mcg is an effective treatment for patients with COPD. It provides significant bronchodilation, reduces clinical manifestations, improves the quality of life of patients and has a favorable cardiovascular safety profile.

**Keywords:** COPD, treatment, indacaterol, Onbrez®Breezhaler®.

Chronic obstructive pulmonary disease (COPD) is a major cause of morbidity and mortality worldwide. According to the results of modern epidemiological studies from 2 to 26% of the adult population suffer COPD in the European countries [6]. Prevalence and unfavorable course of COPD are associated with a high prevalence of tobacco smoking, unfavorable ecological situation, low medical literacy and other factors.

According to the World Health Organization COPD causes the death of more than 3 million people every year [20] and it is in the fourth place on the list of causes of death worldwide [14]. WHO expects that by 2030, chronic obstructive pulmonary disease will be the third leading cause of death [21].

According to numerous studies there is a clear correlation between the decrease in FEV1, cardiovascular morbidity and mortality [15,18,19]. The long-term population-based study indicated that the risk of cardiovascular mortality was more than double among patients with low forced expiratory volume in 1 second than in the group with higher levels of FEV1, at that, it was independent of

smoking status [19]. The epidemiology of arrhythmias in the patients with COPD and their connection with a fatal case was examined in the Copenhagen City Heart Study. It is ascertained that COPD is associated with a high incidence of heart rhythm disturbances [16]. It is important to note, the mortality rate of patients with the combination of severe acute COPD and arrhythmia is more than 30%, by comparison with the mortality rate of the same patients but without arrhythmias is 8% [9].

Many researchers demonstrate the high prevalence of different types of arrhythmias in patients with COPD [1-5]. The pathogenesis of arrhythmias in these patients is multifactorial: systemic inflammation, hypercapnia, and oxidative stress lead to the acceleration of atherogenesis and provoke arrhythmias, dysfunction of the left and right ventricles, hypoxia, respiratory acidosis, hypokalemia, hypomagnesemia, and dysfunction of cardiac conduction system. It is necessary to notice the high probability of pharmacological therapy induced arrhythmias with the high doses of bronchodilator drugs [7], the drugs of the 1st line of the majority of patients with

COPD.

The using of  $\beta_2$ -agonists is accompanied by stimulation of the Na<sup>+</sup>/K<sup>+</sup> and ATPase of skeletal muscle interfacing with  $\beta_2$ -adrenoreceptor following elution of muscle fibers Na<sup>+</sup> and intracellular accumulation of K<sup>+</sup> increasing, but decrease of concentration of K<sup>+</sup> in blood [17].

Therefore, an effective and safe treatment of this pathology is one of the priority tasks of modern pulmonology.

The dimension of pharmacological treatment is based on clinical symptoms, post-bronchodilator forced expiratory volume in 1 s (FEV1) and frequency of exacerbations of the disease. It should be noted that patient compliance and adherence to the recommended regimens of medical maintenance are important components of effective treatment. From this point of view, the facilitation of medical treatment regimens and once daily administration are steps towards that.

The big gain of the modern pharmacology is the design of long action  $\beta_2$ -agonist (Indacaterol). Virtually all  $\beta_2$ -agonists are a mixture of R- and S-enantiomers, the inactive S-enantiomer