



HEAVY BRONCHIAL ASTHMA IN CHILDREN ANDIZHAN AREA

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SUMMARY

To study the characteristics of severe bronchial asthma, 140 children were examined. A survey, clinical, allergological and functional examinations were conducted. Studies have shown that boys have asthma at an earlier date becomes severe. Polyvalent sensitization to epidermal allergens and the presence of bronchial asthma in the mother of the child, severe asphyxiation at birth are risk factors for the severe course of asthma in children.

Key words: severe bronchial asthma, children.

The problem of asthma continues to be relevant throughout the world, despite numerous studies and a sufficient amount of treatment and preventive measures. In childhood, asthma is one of the most common chronic diseases [1,2,3].

According to the results of a number of researchers, the prevalence of asthma in the Republic of Uzbekistan varies from 1.1% to 8.2%, which is due not only to the influence of external regional factors, but also to the use of various diagnostic methods [4-6]. However, as shown by almost all studies conducted under the ISAAC (International Study of Asthma and Allergy in Children) program in all regions of the planet, the true incidence of asthma was significantly higher than official statistics [7]. The discrepancies between official statistics on employment and the results of epidemiological studies are also associated with the underdiagnosis of bronchial asthma in different age groups.

These data determine the high urgency of the problem, explain the need and significance of research on the problem of severe asthma in children [2].

Objective: to study the characteristics of severe asthma in children of the Andijan region.

MATERIALS AND METHODS

A survey of 60 children from 2 to 17 years old, living on the territory of the Andijan region. The average age of the patients was 8.5 ± 1.9 g. The average duration of asthma was 3.5 g. All children were divided into two groups: the first group consisted of malchiki with severe asthma ($n = 49, 70\%$), the second - girls with severe BA ($n = 21, 30\%$). As a comparison group, in the analysis of some indicators, children with moderate asthma — 25 people — appeared (the average age of the group was 8.2 ± 1.7 g, the average duration of asthma was 5.2 g). The average age of boys with severe BA (group 1) was 7.7 ± 2.1 g., The average age of girls with severe asthma (group 2) was 8.9 ± 3.8 g. The average duration of the disease course in boys it was 5.2 years old, for girls - 5.8 years old. The diagnosis of asthma in all patients was confirmed by the data of the disease history, clinical, allergic and functional examination. Allergological examination, in addition to a detailed history, included skin tests and determination of syvorotechny level of total IgE by ELISA.

The statistical processing of the material was carried out in Excel (group average and its standard deviation, criterion X2 and student's criterion).

RESULTS AND DISCUSSION

The average age of patients at the time of setting diagnosis in boys was 3.6 ± 0.7 g., in girls - 4.8 ± 1.6 g. ($p > 0.05$). In 85.7% of children, until obstruction of asthma was established, obstructive bronchitis was observed. The average age of onset of asthma, based on the fixation of the first symptoms of obstruction, was 1.8 ± 0.3 g in boys. and in girls 2.8 ± 1.0 g. The time between the appearance of the first symptoms and the establishment of the diagnosis was insignificantly different and amounted to 2.0 ± 0.4 g. in boys and 2.3 ± 0.7 g. in girls. Most boys (67.3%) and girls (76.2%) were immediately diagnosed with severe asthma, others had asthma as mild and moderate, and then became severe. On average, from the time of the diagnosis of BA to the establishment of a severe course of the disease, 3.8 g passed. in examined children.

Most areas of the Andijan region are industrial. It is suggested that the adverse role of the external environment in the formation of the severe course of asthma plays a leading role [1]. In addition, among children living in ecologically unfavorable areas since birth, the number of patients with severe asthma increases compared with children who arrived in an ecologically unfavorable area after 3 years of age [5]. Confirmation of these facts obtained in our study. The largest number of children with severe asthma (32.9%) are in the age group of 3-6 years (Fig. 1). Moreover, this distribution, mainly due to the boys - 38.8% of boys from the severe BA group are in the age group of 3-6 years. Whereas the majority

Table 1

Sensitization spectrum in children with asthma of severe and moderate course

Allergen	Children with severe BA, %	Children with moderate BA, %	Level of significance
Pollen allergens	60,0	48,1	$p > 0,05$
Epidermal allergens	68,6	46,2	$P < 0,05$
Household allergens	71,4	76,9	$p > 0,05$
Cat hair	57,1	42,3	$p > 0,05$
The coat of dogs	37,1	19,2	$p > 0,05$
D. farine	31,4	55,8	$P < 0,05$
D. Pteronissinus	37,1	63,5	$P < 0,05$
Polyvalent Sensitization	77,8	48,1	$P < 0,05$

(28.6%) of girls are in the age group of 9-12 years old. The predominance of the age range of 3–6 years in the group of severe asthma in boys is due to the fact that the boys' lungs are late in structure development in early childhood compared with the lungs in girls. The male sex in this age period is associated with large lung

volumes, but with proportionally narrow bronchi. When analyzing the age of onset of the first asthma symptoms, it was found that in 91.8% of boys the symptoms of the disease are found under the age of 3 years, against 66.7% of girls of the same age ($p < 0.05$). Which is probably also associated with the anatomical features of the bronchi in boys.

In hypoxia (a score of 7 or less on the Apgar scale) 54.3% of children with severe asthma were born, which is comparable with the comparison group - 59.1%. Mechanical ventilation of the lungs (ALV) at birth lasting more than 5 days was found in 5.7% of children with severe asthma and ranged from 10 days to 2 months. In the comparison group, mechanical ventilation was not performed at birth for more than 5 days ($p < 0.05$). A history of pneumonia was more common in girls — 27.4% versus 17.1% in boys ($p > 0.05$).

Allergic rhinitis (AR) and food intolerance were insignificantly more common in boys (90.8% versus 74.8% for AR and 25.5% versus 15.3% for food allergies). Atopic dermatitis (AD) in severe asthma in boys was found in 47.9% of cases, whereas in girls only in 18% of cases ($p < 0.05$). The combination of AR and BP was significantly more common among boys (36.7%) with severe asthma than among girls — 14.9, ($p < 0.05$).

A diverse allergic pathology among the relatives of patients with severe BA was found in 59%.

Allergic diseases in mothers of children with severe asthma were observed in 22.9%, against 12.5% in the comparison group, $p > 0.05$. BA in mothers of children with severe asthma occurred in 8.6% of cases, whereas in the comparison group this indicator was 1.1%, ($p < 0.05$).

The results obtained in the analysis of the spectrum of sensitization in severe BA in children are presented in tab. one.

The table shows that in severe asthma sensitization to epidermal allergens (cat's fur, dog's and rabbit's fur) is significantly more common. Polyvalent sensitization occurred with a greater frequency and is also more common in children from the group of severe asthma. This fact is consistent with the studies of L.M. Ogorodovoy, who established that multivalent sensitization is a risk factor for severe BA [4]. Sensitization to house dust mites, in contrast, was significantly more common in the comparison group.

Thus, it is characteristic of severe asthma: a large percentage of sensitization among children to domestic, epidermal and pollen allergens. Sensitization to epidermal antigens, polyvalent sensitization, asthma in the mother of the child, mechanical ventilation for more than 5 days at birth are factors of severe asthma in children. In boys, asthma at an earlier date becomes severe.

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