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Ganiev Abdurashid Ganievich,

Associate Professor, Department of Hospital Pediatrics,
Andijan State Medical Institute. Andijan, Uzbekistan

Nazarov Komil Dadaevich,

associate professor of the department of hospital pediatrics,
Urgench branch of the Tashkent Medical Academy. Urgench, Uzbekistan

CHARACTERISTIC OF SEVERE FORMS OF BRONCHIAL ASTHMA IN CHILDREN OF THE ANDIJAN REGION

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ANNOTATION

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

Keywords: severe bronchial asthma, children.

Ганиев Абдурашид Ганиевич,

доцент кафедры госпитальной педиатрии Андijanского государственного
медицинского института. г. Андиян, Узбекистан

Назаров Комил Дадаевич,

доцент кафедры госпитальной педиатрии Ургенчского филиала
Ташкентской медицинской академии. г. Ургенч, Узбекистан

ХАРАКТЕРИСТИКА ТЯЖЕЛЫХ ФОРМ БРОНХИАЛЬНОЙ АСТМЫ У ДЕТЕЙ АНДИЖАНСКОЙ ОБЛАСТИ

АННОТАЦИЯ

Для изучения характеристик тяжелой бронхиальной астмы было обследовано 140 детей. Был проведен опрос, клинические, аллергологические и функциональные обследования. Исследования показали, что у мальчиков астма в более ранние сроки становится тяжелой. Поливалентная сенсибилизация к эпидермальным аллергенам и наличие бронхиальной астмы у матери ребенка, тяжелая асфиксия при рождении являются факторами риска тяжелого течения астмы у детей.

Ключевые слова: тяжелая бронхиальная астма, дети.

Ganiev Abdurashid Ganievich,

Andijon davlat tibbiyot instituti hospital
pediatriya kafedrası dotsenti. Andijon, O'zbekiston

Nazarov Komil Dadaevich,

Toshkent tibbiyot akademiyasining Urganch filiali,
hospital pediatriya kafedrası dotsenti. Urganch, O'zbekiston

ANDIJON VILOYATI BO'YICHA BOLALARDA BRONXIAL ASTMA KASALLIGI OG'IR FORMASINING XARAKTERISTIKASI

ANNOTATSIYA

Og'ir kechuvchi bronxial astma xususiyatlarini o'rganish uchun 140 bola tekshirildi. Klinik, allergologik va funktsional tekshiruvlar o'tkazildi. Tadqiqotlar shuni ko'rsatdiki, erta yoshidagi bolalarda astma borligi kasallikni kechishi og'irlashtiradi, epidermal allergenlarga sezuvchanlik oshadi. Bolaning onasida astma borligi, bola uchun xavfli omil bo'lib, tug'ilishda og'ir asfiksiyaga olib kelishi mumkin.

Kalit so'zlar: og'ir bronxial astma, bolalar.

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 [1,2,3,16].

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 [4,7,6,11]. 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 [7,9,10,13]. According to the results of a number of researchers, the prevalence of asthma in the Republic of Uzbekistan varies from 3.1% to 8.2%, which is due not only to the influence of external regional factors, but also to the use of various diagnostic methods [4,5,6]. 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 [1,7,17]. The discrepancies between official statistics on employment and the results of epidemiological studies are also associated with the under diagnosis of bronchial asthma in different age groups.

Analysis of epidemiological studies in the city of Andijan showed that in the structure of the prevalence of allergic diseases, bronchial asthma is in 2nd place ($5.6 \pm 0.03\%$), yielding to allergic rhinitis ($12.7 \pm 0.19\%$) [3,8,15].

Despite the use of increasingly effective means for anti-inflammatory therapy of respiratory allergies, up to a third of patients continue to complain about the persistence of symptoms of the disease even when it is carried out in an adequate age dosage.

Unfortunately, treatment with inhaled corticosteroids, being the most effective currently used, has a number of side effects, including depression of the axis of the hypothalamus-pituitary-adrenal cortex, the formation of local candidiasis and others [2,9,10,16].

The discrepancies between official statistics on employment and the results of epidemiological studies are also associated with the under diagnosis of bronchial asthma in different age groups [17]. These data determine the high urgency of the problem, explain the need and significance of research on the problem of severe asthma in children [2,11].

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 boys with severe asthma ($n = 49$, 70%), the second is 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 is 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 whey 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 is 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 [1,13]. 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 (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 is 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 ($p < 0.05$).

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

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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