



DIAGNOSIS AND TREATMENT OF ATOPIC BRONCHIAL ASTHMA IN CHILDREN WITH ALLERGIC RHINOSINUSITIS

Toyirov M.M., Narzullayev N.U.

Bukhara State Medical Institute

✓ *Resume*

60 children with bronchial asthma and 60 children with bronchial asthma in combination with allergic rhino sinusitis were examined. All children had specific diagnostics with the obligatory identification of allergens. Patients in the first group received basic, traditional treatment. Another group received laser puncture with the basic treatment. Treatment with the usage of laser puncture was more effective and led to an improvement clinical status of patients and indicators of humoral and cellular immunity.

Key words: atopic bronchial asthma, rhinosinusitis, laser puncture, sensitizer, immunologic reactivity.

ALLERGIK RINOSINUSIT BILAN KASALLANGAN BOLALARDA ATOPIK BRONXIAL ASTMA DIAGNOSTIKASI VA DAVOSI

Toyirov M.M., Narzullayev N.U.

Buxoro Davlat tibbiyot instituti

✓ *Rezyume*

60 nafar bronxial astma va 60 nafar allergik rinosinusit bilan birgalikda bronxial astma bilan ogʻrigan bolalar tekshirildi. Barcha bolalar allergenlarni aniqlash bilan maxsus diagnostikadan oʻtkazildi. Bemorlarni davolash asosiy, anʼanaviy bir guruhda amalga oshirildi. Boshqa guruh asosiy davolash fonida lazer punksiya oldi. Lazerli punksiyani qoʻllash bilan davolash samaraliroq boʻlib, bemorlarning klinik holatini, gʻumoral va hujayrali immunitet koʻrsatkichlarini yaxshilashga olib keldi.

Kalit soʻzlar: Atopik bronxial astma, rinosinsit, lazerli punksiya, sensibilizatsiya, immunologik reaktivlik.

ДИАГНОСТИКА И ЛЕЧЕНИЕ АТОПИЧЕСКОЙ БРОНХИАЛЬНОЙ АСТМЫ У ДЕТЕЙ С АЛЛЕРГИЧЕСКИМИ РИНОСИНУСИТАМ

Тойиров М.М., Нарзуллаев Н.У.

Бухарский Государственный медицинский институт

✓ *Резюме*

Было обследовано 60 детей с бронхиальной астмой и 60 детей с бронхиальной астмой в сочетании с аллергическим риносинуситом. У всех детей проводилась специфическая диагностика с обязательным выявлением аллергенов. Лечение больных проводилась в одной группе базисное, традиционное. Другая группа на фоне базисного лечения получала лазеропунктуру. Лечение с применением лазеропунктуры было более эффективным и приводило к улучшению клинического состояния больных и показателей гуморального и клеточного иммунитета.

Ключевые слова: atopическая бронхиальная астма, риносинусит, лазеропунктура, сенсебилизация, иммунологическая реактивность.

Relevance

Bronchial asthma is a common and frequently occurring allergic disease in children and adults (1.5). Cases of diseases with a more severe clinical course are becoming more frequent. In recent years,

there has been an upward trend in fatal cases (4). There are obviously many reasons for this phenomenon. Among them, in our opinion, the increase in cases of bronchial asthma, combined with other somatic and allergic diseases, is of great importance. In this regard, it is of particular interest to study bronchial asthma associated with allergic rhino sinusitis (ARS). It has been established that the pathology of the ENT organs negatively affects the clinical course and outcome of bronchial asthma (2,12).

Purpose of the study. Establish a specific diagnosis and develop optimal therapy for atopic bronchial asthma associated with ARS in children.

Material and methods

Under supervision there were 150 children aged 7-14 years: boys - 98 ($65.3 \pm 3.8\%$), and girls 52 (34.7 ± 3.8). Of these, suffering from atopic bronchial asthma - 120 and practically healthy 30 (control). The diagnosis of the underlying and concomitant diseases was made on the basis of complex clinical-allergological, rhino logical, functional, laboratory, radiological studies. The function of external respiration, the respiratory function of the nose, some indicators of humoral and cellular immunity were determined [3,6,8, 9,11].

For treatment, patients were divided into 2 groups of 30 children each. One a group of children, against the background of the basic, that is, traditional treatment, received laser puncture. For this purpose, an LG-78 helium-neon laser with a wavelength of $0.63 \mu\text{m}$ and an irradiation power of 2 mW/ was used. Exposure time 10-15 sec. to one auricular point. The total exposure time is not more than 2 minutes. on corporal points and no more than 20 sec. to auricular points. Treatment was carried out daily. The course of treatment is 5-12 procedures with 2-week breaks. For laser puncture, acupuncture points were selected that reduce hypersensitivity (sensitization), increase immunological reactivity, and also have anti-inflammatory and antispasmodic action: corporal (P7, P8, E36, E41, VB20, V12, RF9, F8, VB41); auricular (AT12, AT13, AT15, AT22, AT31, AT33, AT60, AT78, AT109) [2, 10,15]. The second group of sick children (control) received only basic treatment, which consisted of prescribing anti-inflammatory drugs (Intal, Tiled), bronchodilators (short-acting inhaled B2 agonists), mucolytics, and vitamins [7,10].

The effectiveness of the treatment was assessed by comparing the clinical condition of patients and clinical-allergological, laboratory and immunological parameters before and after treatment, after 2-4 weeks and subsequently after 1-2 years. Treatment was considered excellent in the case when the symptoms of the underlying and concomitant diseases disappeared completely, the indicators of functional, radiological, laboratory and immunological studies improved (conditionally 5 points); good, when some of the painful symptoms of the underlying and concomitant diseases disappeared, and the intensity of others significantly weakened, the indicators of clinical and laboratory studies improved partially (4 points); satisfactory, when the symptoms of the disease persisted, but their intensity was significantly weakened (3 points); ineffective when the condition of the patients remained unchanged (2 points).

The digital data were processed by the method of variation statistics. Numerical differences were considered significant when $t \geq 2$, a $P < 0.05$.

Results and its discussion

We examined 120 children suffering from typical atopic bronchial asthma, and in 60 the underlying disease was combined with ARS, and in the other 60 it was not combined with ARS. The duration of the disease ranged from 6 months to 10 years. The severity of the clinical course was different and depended on the combination of bronchial asthma with ARS. Among children suffering from atopic bronchial asthma, combined with ARS, patients with more severe clinical course prevailed (Table 1).

Table 1

The severity of the course of bronchial asthma in children ($M \pm m\%$)

Clinical course	Atopic bronchial asthma	
	Combined with ARS	Not combined with ARS
Lung	21($35,0 \pm 10,4$)	40($66,7 \pm 6,0$)
Medium-heavy	27($45,0 \pm 10,9$)	20($33,3 \pm 6,0$)
heavy	12($20,0 \pm 11,9$)	
Total:	60(100)	60(100)

In the formation and development of atopic bronchial asthma, combined and not combined with ARS, predisposing and contributing risk factors were of equal importance. So, respectively, the

content of IgE in blood serum is 850.5 and 615.5 IU / ml, bronchial hyperreactivity -100% and 100%, hereditary burden - $75.0 \pm 5.5\%$ and $70.0 \pm 9.9\%$, allergic diathesis 55.0 ± 6.4 and $62.5 \pm 9.6\%$, toxicosis of pregnancy in mothers of sick children $68.3 \pm 7.2\%$ and $60.0 \pm 10.0\%$, and the pathology of pregnancy and childbirth - 26.7 ± 11.0 - 38.3 ± 10.1 and 15.0 ± 14.5 - $32.5 \pm 12.9 \pm 12.9\%$, artificial or early mixed feeding - $65.0 \pm 6.1\%$ and $55.0 \pm 10.6\%$, combination with allergic diathesis - $59.8 \pm 8.2\%$ and $45.0 \pm 9.5\%$ ($P > 0.5$).

ARS were of great importance in the formation and development of atopic bronchial asthma. In the majority of patients (93.3%), ARS was preceded by the onset of bronchial asthma or their symptoms manifested simultaneously with the signs of bronchial asthma. There are at least the following mechanisms of this phenomenon: 1) the development of inflammatory processes in the lungs when various allergenic substances enter them from pathologically altered paranasal sinuses; 2) increased blockade of β -adrenergic receptors, leading to increased irritability of the bronchial tree; 3) reflex bronchospasm due to increased excitation of the parasympathetic nervous system (2.12).

In the development of sensitization of the organism of sick children, regional allergens of Uzbekistan: household (house dust) 20.0 ± 5.1 - $23.3 \pm 5.4\%$ and micro house dust mites (*D. pteronissinus*, *D. farinae*) - 23.3 ± 5.4 - $30.0 \pm 5.9\%$, as well as pollen (wormwood, quinoa, ailanthus, etc.). -16.7 ± 4.8 - $20.0 \pm 5.1\%$, epidermal (cat, dog hair) - 21.7 ± 5.3 - $26.7 \pm 5.7\%$, food - 8.3 ± 3.5 - $11.7 \pm 4.1\%$.

An analysis of clinical and laboratory data showed the presence of significant distinguishing features of atopic bronchial asthma combined with ARS: the prevalence of severe cases, a pronounced meteorological lability, significant depression of the function of external respiration, rhinometry, etc. (Table 2).

Table 2

Clinical and laboratory parameters in atopic bronchial asthma in children

Indicators	bronchial asthma		Practically healthy
	Combined with ARS	Not combined with ARS	
Allergic history	Positive	Positive	Negative
Weather lability	clearly expressed	less expressed	Missing
Psychological condition	violated	Weakly disturbed	Normal
Forced discharge (l / s)	$1,56 \pm 0,45+$	$2,53 \pm 0,52$	$3,85 \pm 0,56$
Threshold sensitivity of bronchial receptors (mcg%) to: histamine, acetylcholine.	400+ 1200+	600 2500	1000 3000
Allergic rhinitis (%)	100+	-	-
Allergic sinusitis (%)	45,0+	-	-
Nose polyps (%)	3,3	-	-
Rhinometry (mm water column): right half, left half.	$16,8 \pm 3,1+$ $18,4 \pm 3,2+$	$8,6 \pm 0,3$ $8,6 \pm 0,3$	$8,7 \pm 0,3$
0 Eosinophilia (%)	10-15+	6-8+	
1 Eosinophils in nasal smears (%)	$16,2 \pm 4,7+$	8-10+	
2 phagocytic number (%)	$44,6 \pm 5,1+$	$58,6 \pm 5,3$	$75,5 \pm 4,5$
3 Phagocytic index	$3,5 \pm 0,4+$	$5,6 \pm 0,5$	$7,4 \pm 0,5$
4 The power of phagocytosis	$156,1 \pm 10,3+$	$328,1 \pm 15,5$	$558,7 \pm 16,2$
5 Clinical course	Often heavy	Often hard lye and medium heavy	-

When the basic treatment was combined with laser puncture, there was a significant improvement of the clinical condition of patients, indicators of humoral and cellular immunity: a decrease in the

level of IgE by 1.5 times, an increase in the content of IgG - 1.7 times, IgA - 1.3 times, CD3 - 1.7 times, CD4 - 1.8 times, CD8 - 1.8 times CD22 - 1.4 times ($P<0.05$). In children who received only basic treatment, such patterns were not observed. Over the next 1-2 years, children who received laser puncture against the background of basic therapy showed an improvement in the terms of remission, and relapses of bronchial obstruction became less frequent. Most patients showed a tendency to complete recovery. It should be emphasized that the favorable positive therapeutic effect is greater in children with mild and moderate clinical course. In general, excellent and good results prevailed with laser puncture (average 4 points), and with only basic therapy, good and satisfactory results prevailed (average 3 points). The positive therapeutic effect of laser puncture is obviously associated with weakening and further elimination of the inflammatory process in the nose, its paranasal sinuses and lungs, stabilization of the functional state of the immune system, a decrease in the synthesis of IgE, which is expressed weakly or is not observed during only basic treatment.

Conclusions

1. Specific diagnosis of atopic bronchial asthma, combined with allergic rhinosinusitis should be carried out on the basis of serological studies, with the obligatory identification of the causes of sensitization of the body, that is, allergens.
2. Laser puncture, carried out against the background of basic therapy, has a positive therapeutic effect in mild and moderate clinical course of atopic bronchial asthma, combined with allergic rhinosinusitis.

LIST OF REFERENCES:

1. Korostovtsev D.S., Makarov I.V. Mortality due to bronchial asthma children. Materials on St. Petersburg for 24 years. 1 Clinical characteristics of deceased patients. //Allergology. St. Petersburg 1999 pp. 19-25.
2. Gadzhimirzaev G.A. Rhinobronchial syndrome. Makhachkala. 1998. p. 68.
3. Korenchenko S.V., Sukharev E.A. Possibilities of premorbid diagnostics bronchial asthma in patients with allergic rhinitis. //Intern. j. immunorehabilit., 2007. No. 7. p.170. (268).
4. Balabolkin I.I. Specific diagnosis of allergic reactions and diseases in children. // In the book: Allergic diseases in children (Ed.M.Ya. Studenikin and I.I. Balabolkin). M.: "Medicine" 2003 p.107-121.
5. Mamutov Sh.I. The prevalence and clinical-allergic rhinos in Sitov of children living in the Aral Sea region. //Pediatrics. Tashkent. 2000 №4 p.
6. National program "Treatment and prevention of bronchial asthma in children and adults. 1998 p.53.
7. Osin A.Ya., Osina T.D. The use of low-energy lasers in medical treatment of allergic diseases in children. //Apply low intensity laser radiation in pediatrics. Tbilisi. 2001. p.77-78
8. Stelzer A. (Stelzner) Phagocytosis. //In the book: Immunological methods. M.: "Medicine" 2007. p. 378-389.
9. Basford J.K. Low-energy laser therapy: controversies and New research findings // Laser surg. Med., 2013.-Vol.9 №1, p.1-5.
10. Scadding Q. Diagnosis and treatment of nasal allergy in children. // 7 Internat. Congr.of Pediatr.Otorinolar.
11. Slavin R.G. Relationship of nasal disease and sinusitis to brachial asthma. //Ann.Allerge.2002. Vol.49. p. 76-80.

Entered 09.03.2022