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Head of department of coordination Scientifically research activity of Health Ministry of the Republic Uzbekistan

_____ Daminov B.A.

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I "ARGUE"

Head of main Department science and educational Institutions of Health Ministry of the Republic Uzbekistan

_____ Atakhanov Sh.E.

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CHRONIC PNEUMONIA IN CHILDREN DURING ENDEMIC GOITER AND SUBCLINICAL HYPOTHYROIDISM

Methodical Recommendation

Tashkent – 2012

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Composers

Isakova G.K.	Trainee researcher of department Pediatrics general practitioner of Tashkent Medical Academy
Professor Bobomuratov T.A.	Pro-rector by Spiritually & educational actions of Tashkent Medical Academy, Doctor for medical sciences

Reviewers

Professor Shamsiev F.M.	Head of Pulmonology depart of Republic Center for special scientific medical Pediatrics of Health Ministry of the Republic of Uzbekistan, Doctor for medical sciences
Abdusagatova Sh. Sh.	Cand.Medic.Sci., Senior lecturer of department Pediatrics general practitioner of Tashkent Medical Academy

This Methodical Recommendation is confirm on the meeting of Problem Commission in order of _____ by " ____ " of _____ 2012 year. Professor Ayupova F.M. Doctor for medical sciences, Chairman of Commission

This Methodical Recommendation is considered on the meeting of Academic Council of Tashkent Medical Academy in order of _____ by " ____ " of _____ 2012 year. Professor Rahimbaeva G.S., Doctor for medical sciences, Secretary of Council

This Methodical Recommendation intend for practical actions of pediatrists, General practitioners and residents of Magistracy.

Methodical recommendation is intended for practicing pediatricians, GPs and residents of the Judiciary

Current views on the problem of chronic pneumonia and iodine deficiency diseases

Respiratory diseases are the most representative group in the overall incidence of children. In the last 10-15 years, they make up about 50-60% of the morbidity of children aged 0 to 14 years inclusive. According to official statistics, the increase of medical diseases of bronchopulmonary system, their prevalence is increasingly accompanied by the transformation in protracted and chronic forms. Among them, chronic lung disease remains one of the most complex and urgent problems of pediatric pulmonologist. They are not only medical but also social and economic importance due to the high prevalence and disability among children and adolescents. In the oncologic structure of child disability respiratory diseases occupy 5th place.

Chronic pneumonitis (HP) has a central place in chronic bronchopulmonary diseases in children. This term appeared in the beginning of the last century and still enjoys in Russia and CIS countries the most popular, although for many years, this form of learning in adults and children underwent a process of constant appearance and disappearance of dozens of competing titles. There were a lot of terms - synonyms, such as bronchiectasis, pneumosclerosis, chronic bronchitis, deforming bronchitis syndrome, etc.

Initiated by foreign experts substitute the term "chronic pneumonia" to "bronchiectasis" has caused dissent among domestic pulmonologists, as "bronchiectasis," only one, besides an optional component of a complex process in chronic bronchopulmonary pneumonia. This applies to the term "pneumosclerosis."

In ICD-10 was introduced as a chronic pneumonia subheading under "bronchiectasis" with code J 47.0.

According to the adopted at the symposium Pediatric pulmonologists in Moscow (1995) definition, chronic pneumonia is a chronic nonspecific bronchopulmonary process, which based on irreversible morphological changes in the form pneumosclerosis and bronchial deformation in one or more segments and accompanied by recurrent inflammation in the lungs and bronchi
[IK Volkov 2004].

The prevalence of chronic pneumonia in children is, according to different research groups, from 1 to 1.5 per 1000 children in age to 14 years.

[Artamanov, 2011].

The materials held N.D.Azizov on the prevalence of chronic bronchopulmonary diseases among children in Tashkent and Khorezm regions, noted that the actual prevalence of chronic bronchopulmonary diseases in 3-3.5 times higher than the up take. In particular, the prevalence of chronic pneumonia in the Tashkent region is (per 1,000 children of appropriate ages): 1-7 years -

16.9%, and 8-14 years - 29.9%, and in the Khorezm region, 42.3 and 67.9% respectively.

[ND Azizova, 2006].

Iodine deficiency disorders are no less urgent problem not only of modern medicine, but also the State as a whole. The prevalence of iodine deficiency regions in the world is very large. Iodine deficiency is common to all elevations exposed to frequent rainfall, but iodine deficiency can occur in areas that are below sea level, if they are removed from the ocean. Currently, the total number of persons living in regions of iodine deficiency, and therefore at risk of IDD, more than 1.5 billion in approximately 200-300 million of them are detected goiter, more than five million - endemic cretinism, and millions of people have a lighter psychomotor disturbances. [II Grandfathers, 2000].

Iodine deficiency in the biosphere - a very relevant environmental and health and social problem for the Republic of Uzbekistan, with more than 70% of the country have varying degrees of deficiency of this trace element in the air, water, soil, food of local origin.

The most common manifestation of iodine deficiency is endemic goiter. Endemic goiter - is iodine deficiency disease, which develops as a result of iodine deficiency in people living in iodine deficiency areas. In iodine deficiency decreases the synthesis and secretion of T4 and T3, which is a substrate of iodine, which on the basis of feedback leads to activation of the synthesis of TSH. Under the influence of TSH stimulation of the thyroid gland is the adaptation mechanisms of absorption of iodine and other stages of its metabolism. One manifestation of this adaptation is the predominant synthesis and secretion of T3, which is the most active thyroid hormone, while its synthesis requires not 4 but only 3 atoms of iodine. By TSH-dependent increase in the absorption of iodine from the blood of thyroid captures an increasing number of exogenous iodine and increases reuse of endogenous iodine, which increases the efficiency of biosynthesis of thyroid hormones. Under the influence of TSH occurs as hypertrophy (increase in size) and hyperplasia (increased number) of thyroid follicular cells. As a result, iron is increased in size and volume and goiter is formed, which in the initial stages can be considered as a compensatory response aimed at ensuring the body's thyroid hormones in conditions of iodine deficiency [NV Galkina , 2006].

In chronic iodine deficiency, as well as the presence of other goitrogen, amplifying the effect of iodine deficiency, compensatory mechanisms fail to eliminate the influence of environmental factors. In this regard, despite the further increase of the body, thyroid gland function hypertrophied reduced. First, against the backdrop of a clinically euthyroid state arises minimal thyroid insufficiency, then - subclinical hypothyroidism (asymptomatic hypothyroxinemia). This level is not conducive to the emergence of hypothyroxinemia clinic overt hypothyroidism, but even the presence of asymptomatic hypothyroxinemia affects the health of the population.

A superficial examination of patients with subclinical hypothyroidism impression of healthy children. However, during the large population-based

Studies can reveal differences in the health status of children, especially teenagers with enlarged and normal size thyroid. In this noteworthy that children with goiter have poorer physical and sexual development, worse taught in school, their health is worse in many respects: they are harder to get sick more often and more likely to have chronic diseases, changes in the cardiovascular system, blood parameters. In adults and older people noted a decline in physical and intellectual performance, early development of atherosclerosis.
Observed emotional disturbances, irritability, drowsiness, memory loss, frequent headaches, lack of refreshment after sleep, and others [EP Kasatkina, 2006].

This explains the importance of the proper functioning of the thyroid gland to the body of its owner. On the other hand, it is clear why the dysfunction of this gland can lead to many diseases of other organs, which, without treatment in order to bring the level of thyroid hormone is not effective enough.

Modern principles of treatment of chronic pneumonia

Modern approach to the treatment of chronic pneumonia should be individualized, comprehensive, landmark, directed to the most complete recovery of respiratory function, the body's defenses and adaptation to the patient's normal living conditions.

Standard therapy of chronic pneumonia include: anti-bacterial and anti-inflammatory drugs, mukoregulyatory, bronchodilators, desensitizing agents, hormonal agents, immunostimulants, antioxidants, chelating homeopathic, natural therapies, massage.

In the process of bronchopulmonary exacerbations should be prescribed antibiotics. Courses of treatment should be continued 3-4 weeks, sometimes up to 2-3 months. Antibiotic treatment should be carried out taking into account the sensitivity to microbial flora of sputum, although the results of determining the sensitivity of microorganisms to antibiotics do not always coincide with the clinical effect of the latter. Best action has intratracheally and end bronchial administration of antibiotics and inhalation of aerosols in the form in combination with intramuscular or oral administration. In recent years, has been extended way to deliver drugs to the respiratory tract using nebulizers (act wave, and vent is, delphiniums', optimist, side stream), whose advantages are the ability to deliver the required therapeutic concentration of drugs in the respiratory tract. Since systemic administration of antibiotics at exacerbation of chronic process is largely limited by their adverse effects and increase the number of resistant strains of microbial pathogens fundamental to them [MN Nefedov, 2008].

Create the necessary therapeutic concentration of the antibiotic in the lung in chronic diseases is not easy, because the drugs are difficult to penetrate into the focus of inflammation that is caused by the development of marked fibro-sclerotic changes and impaired vascularization of lung tissue. Therefore, in

recent years use the lymphatic system, the introduction of lymph tropic drugs. All this confirms the importance of identifying many of adequate dose and the optimal methods of administration of antibiotics [O. A. Sharipov, 2009].

Inclusion in the scheme of treatment of chronic bronchopulmonary disease, pathogenesis of (mukoregulyatory, bronchodilators, desensitizing agents, hormonal agents, immunostimulants, and antioxidants) accelerates the relief of the inflammatory process. Of great importance in the complex treatment immunostimulatory drugs (drugs of the thymus and their analogues).

The widespread use in the treatment of chronic bronchopulmonary disease received homeopathic medicines (homeopathic chelating with the anti-inflammatory, mucolytic and immunostimulating effects).

There is no doubt that to achieve the full resolving actions, recovery of the regulatory systems of the body, as well as for secondary prevention of non-pharmacological expedient to conduct path genetically oriented therapy. In this regard, are the most appropriate physical methods that serve the energy carriers, whose action is based on the activation of its own defenses?

The active anti-inflammatory action has a high-frequency electrotherapy (13, 57 MHz) - Inductothermy, however, expressed increased heat generation and the intensity of circulation when it is used, limit the application of this method in patients with concomitant diseases of the cardiovascular system [Airapetova].

In the presence of smoldering inflammation prescribe medicinal electrophoresis, which combines the influence of galvanic current and pharmacological drug. The choice of drug is determined by the clinical manifestations of disease. For relief of inflammation in the bronchopulmonary system using a laser. When applying transcutaneous preference is given to an infrared laser, the energy of a photon of light, which causes an improvement of microcirculation, decrease vascular permeability, promotes the activation of proliferative processes and epithelialisation tissue, improves the activity of antioxidant system. It should be emphasized that physical methods are not an alternative to medication, they can be used independently, particularly in the remission of the disease, and in conjunction with pharmacological agents that can reduce the amount of [Airapetova, 2004].

In remission spend a spa treatment. All patients with chronic pneumonia are subject to clinical examination in the clinics. We recommend viewing at least 2-3 times a year. If you suspect a worsening shows X-ray and referral to specialized pulmonologist department [H. T. Tsybusova, 2008].

The currently methods used of the above basic treatment is not always effective. In addition, out breaks of endemic goiter a background of endocrine disorders in children and adolescents is subclinical hypothyroidism [DB Demine, 2009]. The combination of chronic pneumonia with subclinical hypothyroidism

or endemic goiter significantly reduces the effectiveness of traditional therapy. The foregoing has identified the need for further research on the use of iodine-containing drugs and thyroxin in the complex treatment of chronic pneumonia in children. However, it is impossible not to mention the preventive measures to eliminate iodine deficiency. At present, Uzbekistan is the control of iodine deficiency diseases at the state level. Since 2007, the law of the Republic of Uzbekistan, on the prevention of iodine deficiency diseases, implemented several programs aimed at eliminating iodine deficiency disorders (IDD). Prevention of IDD is much more effective than treating the consequences of iodine deficiency. There are massive, group and individual methods of iodine prophylaxis.

Methods of iodine prophylaxis

Types of prevention	Methods
The mass iodine prophylaxis	It is the most efficient and economical method of filling iodine. Achieved by adding salts of potassium (iodide or potassium iodated) to the most common foods: salt, bread and water.
The group iodine prophylaxis	It is organized by the drugs that contain iodine, population groups most at risk of IDD (children, adolescents, pregnant and lactating women). To meet the needs of the body for iodine following recommended daily intake of iodine standards (WHO, UNISEF 1996 y.): Infancy - 50 mg; From 2 to 6 years - 90 mg; From 7 to 12 years - 120 mg; 12 years and older - 150 mg;
Individual iodine prophylaxis	Pregnant and lactating women - 200 micrograms. Targeted by the inclusion in the diet of foods rich in iodine and the appointment additional medications that contain iodine.

According to many authors, for the successful solution of this problem is an important factor of the population awareness of the need and methods for iodine prophylaxis, early detection and treatment of goiter, especially in childhood and adolescence in girls. [Shagazatova, 2002].

The course of chronic pneumonia in children in the background of iodine Deficiency diseases

Despite the large number of studies of chronic bronchopulmonary disease, iodine deficiency diseases, the effects of iodine deficiency diseases in the course and prognosis of a number of systemic diseases in children are not sanctified peculiarities of chronic pneumonia in children with iodine deficiency diseases and the effect of standard treatment of the underlying disease on the functional state of thyroid.

The authors studied the guidelines for chronic pneumonia in children with endemic euthyroid goiter and subclinical hypothyroidism, evaluated the efficacy of the drug in combination therapy yodtiroks. For this purpose, were examined in 102 patients with chronic pneumonia, including 30 children with no iodine deficiency diseases (comparison group), 43 with subclinical hypothyroidism and 29 with endemic euthyroid goiter I, II degree at the age of 7 to 14 years inclusive. The control group consisted of 20 children, occasionally suffering from SARS and what is not without chronic somatic disease. The studies were conducted in patients with the first few days at admission and after the course of the proposed treatment.

In the process of the studied medical history, disease, physical assessment of the present status; studied values of total blood, urine and stool, chest radiograph, peak flow, ECG. All surveyed had active poll that focuses on the identification of complaints that point to possible violations of the thyroid gland by palpation assessment of the size and structure of the thyroid gland. For the diagnosis of endemic goiter and subclinical hypothyroidism had a special research methods according to generally accepted standards, determined the content of thyroid hormones and cortical in the blood serum, the iodine content in urine, had a thyroid ultrasound.

The analysis of anamnesis of children surveyed showed that family history of bronchopulmonary disease (chronic bronchitis, bronchial asthma) was observed in 31 (30.3%) children tested. Also in the history of the children surveyed were observed repeated pneumonia, brought forward at an early age in 67 (65.7%), bronchial foreign bodies in 7 (6.8%), destructive lung disease in 4 (3.9%), chicken-breast with 3 (2.9%), funnel chest deformity in 7 (6.8%), congenital heart disease in 5 patients (4.9%) patients. In 9 (8.8%) patients with chronic pneumonia occurred against a background of bronchial obstruction. Age bronco -pulmonary process in the examined at the time of the study was: in 21 children (20.6%) - 1-3 years in 49 children (48%) - 4-7 years, 32 children (31.3%) - more than 7 years. The average duration of chronic pneumonia was 5, 3 ± 0, 6 years.

In X-ray examination, 62 (60.8%) patients with chronic bronchial pneumonia were observed deformation without significant expansion in 40 (39.2%) patients diagnosed with bronchiectasis. The most frequently affected segments of the lower lobe of the left lung 61 (59.8%). The lower lobe of right

lung was amazed in 30 (29.4%) cases. The defeat of the middle lobe of right lung was observed in 11 (10.8%). Of all the children surveyed in 2 (1.9%) had right lung removed.

In children with chronic pneumonia with bronchial deformation detected such signs as pneumosclerosis sharply accentuated pulmonary drawing deformation extending from the edge of the extended and compacted roots, increasing the lightness of adjacent segments. Sometimes there was bias in the direction of the median shadow of defeat. During the process of deterioration were observed in the infiltrative shadow of defeat. In 27 (26.4%) patients examined were found signs of bronchiectasis varying degrees.

At peak flow in patients with chronic pneumonia in 58 (56.8%) had obstructive type of ventilator failure, which corresponded to the degree (moderate) of airflow obstruction. Restrictive type HV (II degree) in isolation was seen in 24 (23.5%), and the combined form of BH (III degree) in 11 (10.8%).

The ECG in 42 (41.2%) patients had sinus tachycardia. Some patients in the acute phase of the disease showed signs of right heart overload, diffuse changes in ventricular myocardium. In 17 (16.6%) patients with established right ventricular hypertrophy, in 19 (18.6%) children's respiratory arrhythmia was observed in 7 (6.8%) patients had an arrhythmia-type arrhythmias. In the study of the functional state of thyroid cancer in children with chronic pneumonia revealed persistent violations of the hormonal status of the pituitary - thyroid system.

Table № 1.

Basal levels of TTG, T3 and T4 in the examined children

Groups of the surveyed children	Age of 7-10 years			11 - 14 years		
	TTG ml. E/l	T3 Ng /ml	T4; mkg /dl	TTG ml. E/l	T3 Ng/ml	T4; mkg /dl
Control group n = 20	1,4±0,013	1,2±0,13	8,2±0,78	1,8±0,14	1,25±0,04	7,7±0,8
HP without iodine diseases n = 30	1,62±0,12	1,2±0,042	7,06±0,58	2,1±0,15	1,21±0,02	7,4±0,04
HP with an endemic craw n = 29	2,6±0,16a, b	0,80±0,04 a,b	6,1±0,34 a	3,7±0,25a, b	0,85±0,06 a,b	5,3±0,59a, b

HP with a subclinical hypothyroidism n = 43	5,78±0,26 a,b	0,97±0,03 a,b	7,38±0,44	6,1±0,06a, b	0,89±0,05 a,b	5,4±0,32a, b

Apparently from the table, in group of children with chronic pneumonia without Iodine deficiency diseases the maintenance of TTG and thyroid hormones in blood serums authentically didn't differ from indicators of control group. At children with chronic pneumonia and an endemic craw in younger age group level of TTG was statistically significantly higher in 1,8 times (p <0,05), and T3 values and T4 authentically decreased in 1,5 and 1,3 times respectively on comparison with control group (p <0,05). And, at children of the advanced school age it was noted more expressed increase of level of TTG in 2 times, and T3 and T4 were below values of control group in 1,5 and 1,45 times according to (p <0,001). Concerning values of group of comparison at children with chronic pneumonia and an endemic craw in the TTG younger age group raised in 1,5 times, T3 and T4 were lower in 1, 5 and 1, 2 times. In the TTG senior age group was higher on 1, 8 times, T3 and T4 decreased on 1, 4 times.

Children with chronic pneumonia and a subclinical hypothyroidism had a level of TTG authentically above values of control group in 3 times, both at children younger, and at the advanced school age. Levels of thyroid hormones in group of children of younger school age changed to a lesser extent: if the maintenance of T3 authentically decreased in 1, 2, level T4 tended only to decrease, concerning indicators of control group and group of comparison. However children of the advanced school age have levels of T3 and T4 were much lower in 1, 4 and 1, 5 times of indicators of control group. In comparison with indicators of children with chronic pneumonia without iodine diseases this decrease made 1, 1 and 1, 5 times according to indicators of T3 and T4. The comparative analysis of the thyroid status of children of the main group showed existence of certain distinctions. So, more expressed increase of TTG at children with a subclinical hypothyroidism in 1, 7 and 1, 6 times, concerning values of group of children with an endemic craw according to age was observed. Levels of thyroid hormones, at children with chronic pneumonia and a subclinical hypothyroidism were slightly higher than indicators of children with chronic pneumonia and an endemic craw. The imbalance hypo physical – thyroid system at the surveyed children, was more accurately shown with age as the greatest changes were noted at children of the advanced school age.

Besides studying of changes of the hormonal status hyperphysical – thyroid system us it was studied secretion of a hormone of a bark of adrenal glands, a cortical as glucocorticoids can influence many processes connected with functioning of a thyroid gland. In particular on TTG secretion, education and secretion thyroxin, transformation T4 into T3, removal by iodide kidneys,

education and a catabolism of the proteins connecting and transporting thyroid hormones in blood. As a whole, glucocorticoids suppress activity of a thyroid gland. So, the cortical reduces accumulation by gland of radioactive iodine, accelerates its removal from an organism with urine. Struma concentration T4 under the influence of a cortical can go down, as it suppresses formation of TSGL and transirine.

In this regard we studied the maintenance of a cortical in serums of blood of the surveyed children. The carried-out researches showed decrease in functional activity of a bark of adrenal glands at children with chronic pneumonia in comparison with control group that it is possible to regard as reflection of exhaustion of adaptive reaction from a bark of adrenal glands.

At the same time at children with existence of iodine diseases secretion of a cortical was even more slowed down. Its level in serums of blood of children with chronic pneumonia and an endemic craw decreased in 1,7 and 1,8 times to rather control group; in 1,2 and 1,6 times in comparison with indicators of group of comparison respectively in younger and senior age groups.

Changes of level of a cortical at children with chronic pneumonia and a subclinical hypothyroidism were shown is more expressed. So, level of a cortical decreased in 2 times in younger and senior age groups in comparison with control group, making 87±2,1 and 96±2,4 respectively. On the relation to indicators of children with chronic pneumonia without iodine diseases level of a cortical decreased in 1,3 and 1,7 times respectively in younger and senior age groups.

As level of a cortisol was lower in comparison with children with chronic pneumonia and an endemic craw.

Such abnormally low level of a cortisol at children with chronic pneumonia and an endemic craw and also with a subclinical hypothyroidism, it is possible to explain weakening of feedback adrenal glands – a thyroid gland which can be, the reason of a hypotireodizm observing at these children. Therefore, the revealed hypo function of adrenal glands at children with chronic pneumonia, is even more oppressed what to increase probability of a failure of an illness.

One of informative indicators testifying about functional a condition of a thyroid gland and existence of idiocy deficiency in an organism is yoduriya definition. Results of the analysis of a youriya showed, children with chronic pneumonia without iodine diseases in urine had a content of iodine in limits 128,5±12,1 at children of younger school age and 132,7±23,2 at children of the advanced school age that speaks about lack of deficiency of iodine. At children with chronic pneumonia and an endemic craw in comparison with control group, in younger age group on 1,8 times and in the senior age group on 2,5 times the content of iodine in urine was authentically reduced, making 81,1±2,3 and 64,4±5,1 respectively that points to easy degree of ionic insufficiency. In group of children with chronic pneumonia and a subclinical hypothyroidism an iodine with urine was in limits 94,7±4,7 and 91,3±3,6 mkg \l at surveyed younger school and senior school age that is at critical level.

On Ultra research of a thyroid gland revealed at children with chronic pneumonia without iodine diseases in group of younger school age of 38,8 % of cases, and in group of the advanced school age of 41,6 % of cases the increase in a thyroid gland of the I-degree was registered, II and the III degree of a hyperplasia wasn't observed.

At children with chronic pneumonia and an endemic craw in group of younger school age a hyperplasia of a thyroid gland of the I-II degree for 60 % and 40 % of patients respectively.

In group of patients of the advanced school age the increase in a thyroid gland of the, I degree was noted at 42,1 %, the II degree of 36,8 % of children. In this age group at 4 (21%) patients registered the III degree of a hyperplasia of a thyroid gland. At children with chronic pneumonia and a subclinical hypothyroidism in both age groups came to light only the degree of a hyperplasia of a thyroid gland.

At comparison of the main clinical symptoms of an exacerbation of chronic pneumonia and laboratory data in the surveyed groups, rather heavy course of a disease in group of children with chronic pneumonia and an endemic craw, and also a subclinical hypothyroidism is noted.

Table No. 2

The comparative clinical characteristic of the surveyed patients

Clinic- laboratory indicators		Frequency of manifestation of signs at patients					
		HP with an endemic craw		HP with a subclinical hypothyroidism		HP without an endemic craw	
		7-10 n=10	11-14 n=19	7-10 n=13	11-14 n=30	7-10 n=18	11-14 n=12
Condition at receipt:	average weight	40%	42,1%	46,1%	40%	61,1%	66,6%
	Heavy	60%	57,9%	53,8%	60%	38,8%	33,3%
Temperature increase		50%	47,3%	46,1%	36,6	27,7%	25%
Dyspneas		70%	63,1%	61,5%	66,6%	44,4%	41,6%

Pallor of integuments		80%	73,6%	76,9%	70%	55,5%	58,3%
Cyanosis:	perioralny	60%	52,6%	69,2%	46,6%	38,8%	33,3%
	acracianose	30%	26,3%	38,4%	26,6%	16,6%	16,6%
Cough:	dry	40%	36,8%	38,4%	40%	55,5%	58,3%
	Wet	60%	63,1%	61,5%	60%	44,4%	41,6%
Rattles:	Dry	40%	36,8%	38,4%	40%	55,5%	58,3%
	Wet	40%	42,1%	30,7%	33,3%	27,7%	16,6%
	crepitation	20%	21%	30,7%	26,6%	16,6%	25%
Symptom:	drum-type sticks	10%	15,8%	15,4%	10%	11,1%	8,3%
	hour fragments of glass	10%	15,8%	15,4%	10%	11,1%	8,3%
Thorax pain		30%	31,5%	23%	30%	22,2%	25%
Thorax deformation		70%	78,9%	76,9%	73,3%	66,6%	66,6%
Deficiency of weight of a body		40%	36,8%	46,1%	43,3%	33,3%	33,3%
Leykotsitoz of more than 9 x 10,9/l		60%	68,4%	69,2%	63,3%	50%	46,1%
SOE acceleration more than 10 mm/h		60%	63,1%	62,2%	60%	44,4%	41,6%

As shown in the table, frequency of clinical symptoms authentically differed depending on a functional condition of a thyroid gland; the combination of chronic pneumonia to iodine deficiency diseases was reflected in character of a clinical course, frequency and its weight. Existence of a hypothyroids background provided in the clinical plan to a delay of symptoms of an aggravation, cough was more constant with allocation of a purulent phlegm, the bronchial syndrome more often met, it was often noted backlog in physical development, anemia, children were emotionally labile. All foregoing demands additional introduction of iodinated preparations and thyroxin in a treatment complex, to this contingent of children.

Application iodine at treatment of patients with chronic pneumonia and iodine Deficiency diseases

In our work, for the treatment of concomitant thyroid pathology in children with chronic pneumonia, we took the drug, the combination of iodine The drug "Yodtiroks" manufactured by NICOMED - 1 tablet contains 100 micrograms of iodine + levothyroxine 100 mcg, which has worked well for a treat as endemic goiter and subclinical hypothyroidism. Based on the fact that the Company now in our Republic prophylactic administration of iodine-containing medications to children belonging to the main group of studies over 3 months was scheduled to ½ tablets for children of primary school age children and high school age, one tablet yodtiroksa daily in the morning on an empty stomach . To evaluate the effectiveness yodtiroksa in the complex treatment of children with chronic pneumonia and endemic goiter, as well as with subclinical hypothyroidism, they were divided into subgroups. Of these, the I-subgroup of the two major groups received only conventional therapy, II-subgroups, along with the traditional received additional yodtiroks. All the children surveyed have evaluated the dynamics of expression of the main symptoms of chronic pneumonia with an exacerbation of the disease according to the daily inspection.

The effectiveness of therapeutic measures was assessed by a scale. At the same time adhere to the following classification: 0 - no symptoms, 1 - mild, 2 - moderately expressed 3 - is strongly expressed.

Studies in this regard, studies in children with chronic pneumonia with no iodine deficiency diseases in the traditional treatment progressively regressed, and the end of the tenth day of cough severity score was 2, shortness of breath, a score, physical changes, 2 points. At the same downward trend was noted after 3 or 4 days for clinical signs of cough and shortness of breath, while the local Physical changes are clearly detected to only 7.3 days and Sally reduced by 9-10 per day.

In children with chronic pneumonia and endemic goiter treated with basic therapy with regression of clinical symptoms was somewhat slow (ris.1.a). Thus, the severity of cough was reduced from 5 days and 9-10 days is 2 points. Reducing the severity of dispread is marked with four days and only at the end of 10 days down to 1 point. At the same time the local Physical changes appear more pronounced with the four days, with a decrease in emphysema, clearly being determined for 6-8 days and 10.9 days of making up 2.5 points, slightly higher than the initial parameters. Based on these data we can say that the regression of clinical symptoms in the presence of iodine deficiency state is delayed.

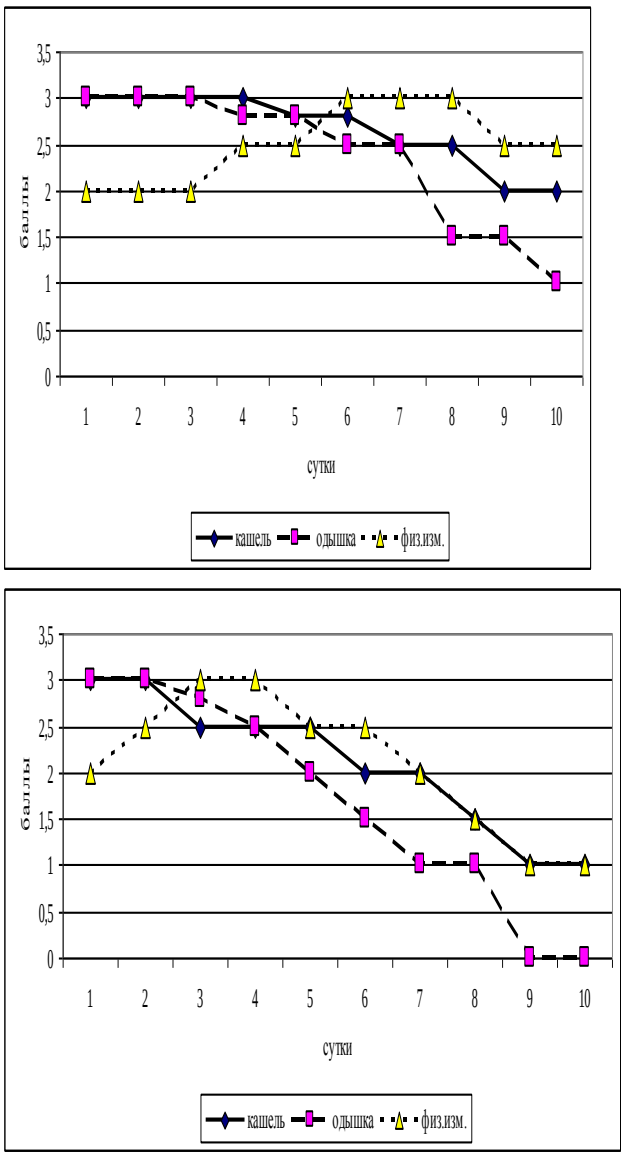


Fig. 1. Dynamics of change of clinical symptoms of chronic pneumonia at children with an endemic craw in the course of traditional (and) and offered treatments.

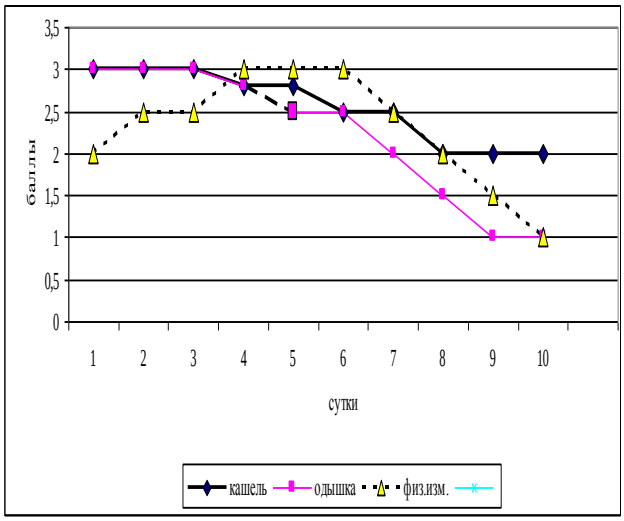
In group of patients with chronic pneumonia and the endemic craw, receiving offered therapy recourse of clinical symptoms is observed in earlier terms (fig. 1.). Expressiveness of cough at offered therapy begins, from 3 days and in the 9th days makes 1 point. Expressiveness of short wind also decreases from 3 days and by 7-8 days are shown by 1 point and 9-10 days it is absent. Local physical changes distinctly come to light from 2 days. In further, expressiveness of physical data is gradually weakened, making for 9-10 days only 1 point.

Comparing results of treatment of patients to chronic pneumonia and an endemic craw at traditional and offered therapy it is necessary to tell that completion of existing deficiency of iodine and especially thyroid hormones appointment iodine essentially accelerates recourse of clinical manifestations and promotes earlier achievement clinic-to laboratory remission.

Assessment of dynamics of changes of clinical manifestations of chronic pneumonia against a subclinical hypothyroidism receiving traditional treatment preservation showed them for a long time (fig. 2.á).

So expressiveness of cough starts to decrease 4 days and by 8-10 days of treatment makes on 2 points. Expressiveness of short wind has the same dynamics, starting to decrease with 4 days and by 9-10 days makes on 1 point. By physical of changes are distinctly shown for 3-6 days and gradually decrease to 1 point by the treatment end.

Comparing these indicators to group of patients with chronic pneumonia and an endemic craw more their slow recourse at the last. In our opinion it is connected with more expressed oppression of exchange processes at children with an endemic craw.



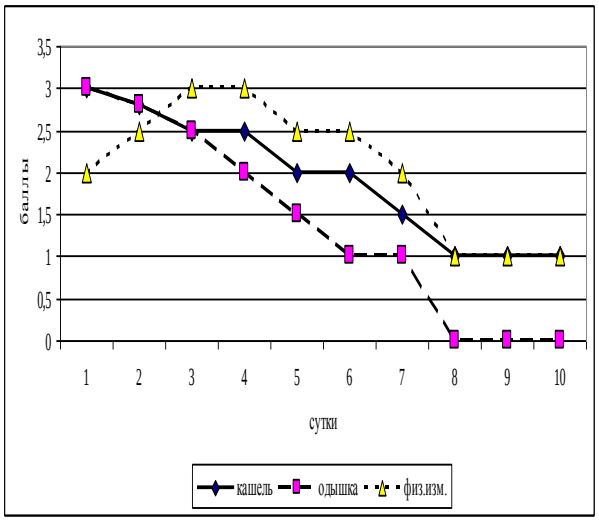


Fig. 2. Dynamics of change of clinical symptoms of chronic pneumonia at children with a subclinical hypothyroidism in the course of traditional and offered treatments.

At patients receiving offered therapy expressiveness of cough decreased from 2 days and by 8 days made 1 point. Degree of expressiveness of short wind

also decreased from 2 days, and by 6-7 days made 1 point, its disappearance we observed from 8 days of treatment. Expressiveness of physical changes accrued from 2 days, reaching the maximum for 3-4 days. Further, we observed easing them and by 8 days of offered treatment decreased to 1 point.

Analyzing dynamics of regression of clinical manifestations of chronic pneumonia against a subclinical hypothyroidism at traditional and offered therapy it is necessary to tell that inclusion yodtiroks in a treatment complex, increasing exchange processes in an organism of patients, probably stimulates immune system and possibilities of an organism that, in our opinion, brings to I am ill to early recourse of clinical manifestations of chronic pneumonia children, thus unlike patients with chronic pneumonia and an endemic craw also receiving offered therapy, recourse of clinical manifestations is more accurately shown in group of children with a subclinical hypothyroidism.

Katamnestichesky supervision (in 3 and 6 months) convincingly testified to efficiency of application of preparation iodine in a treatment complex. Katamnestichesky supervision allowed fixing fast regression of symptoms of an exacerbation of chronic pneumonia and longer remission. Frequency of recurrence of pneumonia within 3-6 months decreased in 2 times. Thyroid function of a thyroid gland and iodine egesting with urine was normalized. Positive dynamics was noted and in ultrasonic research of a thyroid gland that was expressed by disappearance of increase in a thyroid gland of II and III degrees.

Thus, the offered method of treatment of children with chronic pneumonia against iodine diseases leads to improvement not only early results of treatment and to early transition to clinic-laboratory remission, but also the remote results. Frequency of aggravations considerably decreases, hormonal indicators improve physical, hematological, and. In aggregate they define increase of adaptive possibilities and activation of immune system of an organism of children. The received results show need of obligatory research of the thyroid status of children for the purpose of early identification of dysfunction of a thyroid gland. In the presence of this dysfunction it is recommended in a complex of medical actions of children with chronic inflammatory processes to include iodine and thyroxin containing preparations.

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